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ABNORMAL HEMOGLOBINS—Clinical Disorders Resulting from Various Combinations, John S. Lawrence, M.D., and William N. Valentine, M.D., Los Angeles . 1

NORMAL MICTURITION—Certain Details as Shown by Serial Cystograms, Frank Hinman, M.D., Gerald M. Miller, M.D., Eldon Nickel, M.D., Howard L. Steinbach, M.D., and Earl R. Miller, M.D., San Francisco 6

BARIUM REDUCTION OF INTUSSUSCEPTION IN INFANCY, Edward J. Denenholz, M.D., and George S. Feher, M.D., Modesto 8

INSTRUCTION OF MOTHERS IN WELL BABY CARE—A Program of "Talks" at Monthly Visits, Milo B. Brooks, M.D., Los Angeles 13

PARAVAGINAL HEMATOMAS—Their Recognition and Management Postpartum, George F. Melody, M.D., San Francisco 16

AIR POLLUTION AND ITS EFFECT ON HEALTH, Paul Kotin, M.D., and Hans L. Falk, Ph.D., Los Angeles 19

PATHOLOGY OF CAT-SCRATCH DISEASE, Paul H. Guttman, M.D., Sacramento . . 25

ANESTHESIA FOR EYE OPERATIONS IN THE AGED, Joseph H. Failing, M.D., San Marino 32

PERMANENT DISABILITY EVALUATION, E. P. Welch, San Francisco 35

CONGENITAL ABSENCE OF THE VAGINA—Surgical Correction, Joseph Gaster, M.D., Los Angeles 39

CASE REPORTS:

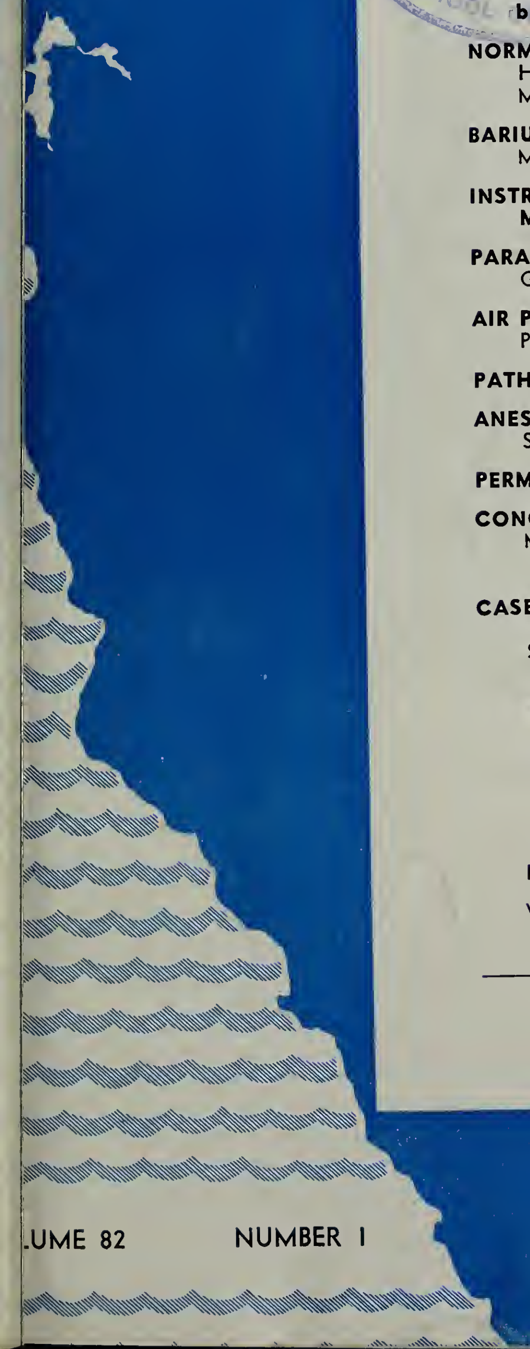
Severe Hypotenisve Reaction to Oral Chlorpromazine Therapy, Sandor Burstein, M.D., and John J. Sampson, M.D., San Francisco 45

Psychosomatic Leukorrhea—Report of a Case, Milton O. Kepler, M.D., Fresno . 47

Nontuberculous Giant Lung Abscess Complicating Tuberculous Bronchostenosis, Joseph Goorwitch, M.D., Los Angeles 48

EDITORIAL, 50 • LETTERS, 51 • CALIFORNIA MEDICAL ASSOCIATION, 52
WOMAN'S AUXILIARY, 56 • NEWS AND NOTES, 57 • INFORMATION, 59
BOOK REVIEWS, 63

C.M.A. Annual Meeting, May 1-4, 1955, San Francisco



OFFICIAL JOURNAL
OF THE CALIFORNIA MEDICAL ASSOCIATION

UME 82 NUMBER 1

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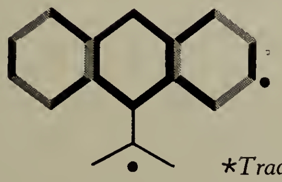


**Trademark for S.K.F.'s brand of chlorpromazine hydrochloride. Chemically it is 10-(3-dimethylaminopropyl)-2-chlorphenothiazine hydrochloride.*

Tax-Supported Medical Schools Should Relax Restrictions

State and city medical schools should relax their restrictions on admitting students from limited geographical areas, the American Medical Association *Journal* recommended recently.

In an editorial in a recent issue of the *Journal*, the American Medical Association said such limitations represent "a shortsighted policy that is a disservice to both the state and the school."

"With roughly one-third as many applicants per vacancy to choose from as the other schools, the tax-supported schools are often placed in the unfortunate situation of having to select inferior applicants or fail to fill their quota," the editorial said.

With continually improved methods of screening candidates, the nation's medical schools have sharply cut the rate of students who drop out—largely because of academic failure—before graduation. This attrition rate dropped from 9.4 per cent in the freshman year 15 years ago to 5.1 per cent in 1952-53. Senior year attrition was only 0.2 per cent that year.

"As a result of being forced into unwise selections these (city and state) schools have an attrition rate twice that of schools that are free to select students without reference to their state residence," the editorial said.

"If state and city schools would relax their restrictions even to the point of choosing a certain percentage of their students from other areas (at a slightly higher rate of tuition and with a certain amount of reciprocity) this would have a salutary effect," the editorial concluded.

Postmortem Skin Donations May Save Many Lives

A person who dies can save the life of another who probably would die without his help.

Two St. Louis, Mo., physicians recently told the story of how skin taken after the death of a donor can carry a severely burned person through an emergency period during which he could not possibly stand to have grafts taken from unburned parts of his own body. Without the emergency aid, these badly burned persons probably would die.

Drs. James Barrett Brown and Minot P. Fryer, of Washington University School of Medicine, said the technique has been used only on a few patients. But they said their success so far led them to make their report without waiting for "an impressive array of patients with adequate percentages" because they believed other physicians could "save the lives that might be lost" if the report were made promptly.

In the meantime, an "unlimited source" of lifesaving grafts is going to waste, they said. The main problem is to gain general public acceptance of giving skin "to save the life of another patient."

They said immediate survival of deep, extensive burns has been increased with better control of shock, but that the patient's chances of surviving beyond the initial shock for more than a few weeks have not been improved.

"The patient can die only once; and whether death occurs on the tenth day or the thirtieth does not change the death rate," they said. Death in such cases has been caused largely by extensive open wounds which could not be closed by transferring grafts of the patient's own skin. These patients are not strong enough to stand this procedure. They may not even have enough undamaged skin for grafts.

The Missouri physicians said the problem could be solved by temporarily grafting the skin taken from a donor who has died within several hours before the procedure. The skin can be preserved for at least a month, perhaps longer with techniques now being developed. The process eliminates the several disadvantages of using live donor grafts.

These skin grafts will "take" even if only held in place by a wrapping of fine greased gauze. This closes the wounds and protects them from infection until the patient has passed the critical period. Later "permanent, complete healing" with restoration of contours, movability and features can be done with the patient's own skin or with live donor grafts.

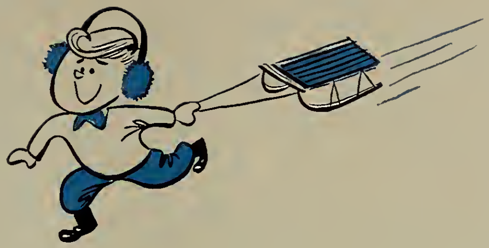
They said they found a simple explanation of the need for skin made to relatives of a possible donor has been enough, but that a visit to a burned patient or display of photographs might supplement the appeal. They explained that grafts are taken only from areas normally covered by clothing and does not disfigure the donor.

Experimental work now is being done with temporary transfers of animal skin to humans. They said this has not met with "any outstanding acceptance or results so far," but might be developed into a temporary emergency measure.

Now, however, postmortem grafts could make a life-or-death difference and "there can be little reason to let this important source of skin go to waste," they said. ". . . the procedure could be developed on a national basis, possibly saving many lives in the event of widespread disaster."

The principle could be used in the armed services. Each serviceman's permission for removal of skin in case of death could be recorded, making available an unlimited source of the best temporary coverage for severe and widespread burn wounds. Civilian needs might be supplied and administered by a central agency in the same manner as blood banks.

"Public acceptance could be counted on if there were developed a realization of the need for usable skin and the fact that a great deal of lifesaving skin is going to waste," they said in a recent issue of the *Journal of the American Medical Association.*



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Council Announces Results of Defense Survey

Responses to the questionnaires sent out in April by the Council on National Emergency Medical Service, whose name was recently changed by the Board of Trustees to the Council on National Defense, have provided the Council with a great deal of valuable information. The questionnaires dealt with the status of medical civil defense planning in the states and territories.

The Council plans to publish the major results of this survey in the A.M.A. *Journal* in the near future.

Officials in all except six states responded promptly to the questionnaire which was sent to State Directors of Civil Defense and to the chairman of the State Emergency Medical Service Committees. A few of the interesting facts disclosed by the survey are: New York State has the largest appropriation for civil defense for the fiscal year 1954, with $1,494,000, of which $438,000 is for medical purposes, followed by California, with $1,191,894, of which $51,048 is for medical purposes. In terms of size of the staff, California leads with 116, of which 11 are medical, and New York second with 102, of which 43 are medical. At least seven states have no written civil defense medical plan; at least seven states said that there have been no specific assignments to physicians in event of disaster; and at least thirty of the civil defense state statutes are also applicable to natural disasters.

A copy of the complete results of the survey can be obtained from the Secretary of the Council on National Defense at A.M.A. headquarters.

—The A.M.A. Secretary's Letter

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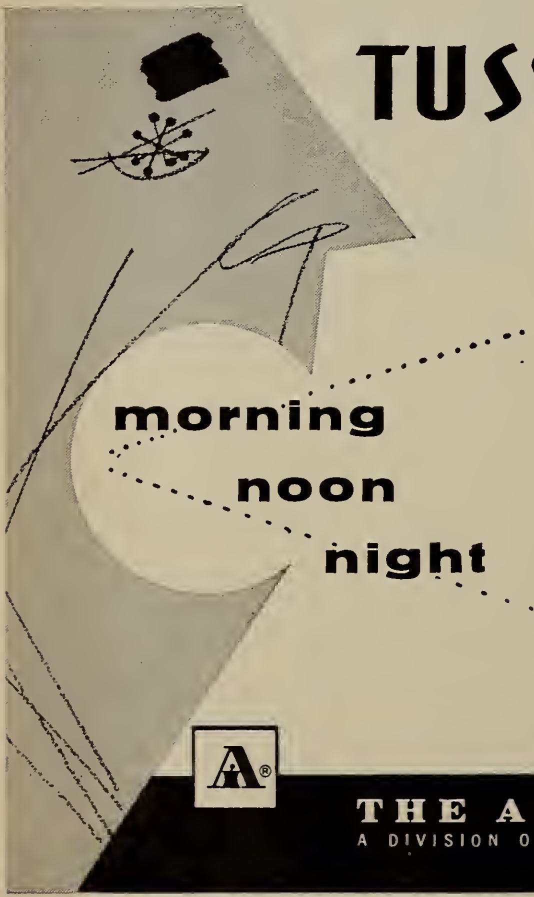

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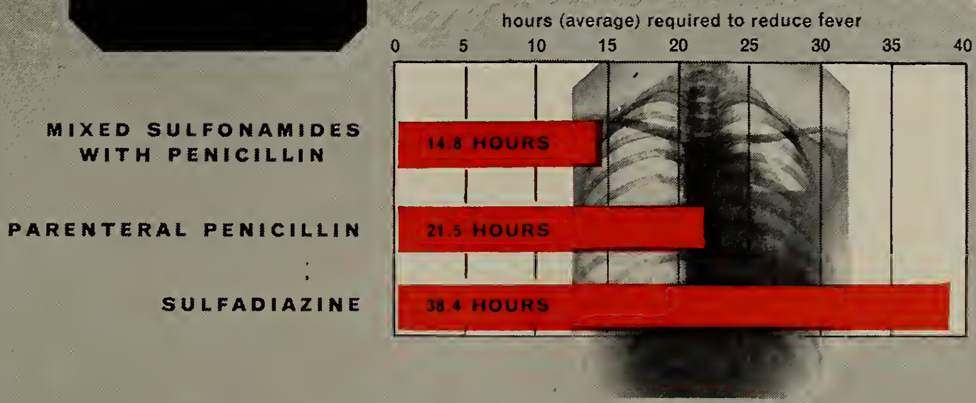

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*Vollmer, H.; Pomerance, H. H., and Brandt, I. K.: New York State J. Med. 50: 2293, 1950.

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A Fine Article by a Fine Writer

Mr. Tom Mahoney, one of the country's top-flight science writers, has written an excellent article, entitled "How to Pick a Doctor," which appeared in a recent issue of the *American Legion* magazine.

There is one paragraph which I especially liked. It reads: "If the doctor is himself the medicine, you certainly want a hand in choosing him. That's what the American Medical Association means when it fights for 'free choice of physicians.' The trouble is that patients seldom use the limited amount of choice most of them have. Most people are likely to show more intelligence, judgment, and circumspection in choosing their vacuum cleaner, whiskey or lipstick than they do in selecting a doctor."

Dr. F. F. Borzell, Philadelphia, past speaker of the A.M.A. House of Delegates and prominent in Legion affairs, liked the article so well that he sent a letter to the editor of the magazine, Joseph C. Keeley, commending him for publishing it.

"A great many misunderstandings and difficulties concerning physician-patient relationship would be eliminated if the advice contained in this article were followed," Dr. Borzell said in his letter to the editor.

—*The A.M.A. Secretary's Letter*

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* See MORRISON: Rev. of Gastroent., Oct. 1953.

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Lang's background includes education at Washington State College, experience in the retail pharmacy business for three years and his association with Boyle & Company for over six years. Extremely personable, Lang, his wife Betty-Lee (who incidentally is a registered pharmacist) and their two daughters, 6 and 7, live happily in their attractive Altadena home. An enthusiastic golfer, an ardent bridge player, Lang still finds time to do his own gardening, romp with his kids and live a typically American life.

When Lang Tannehill, or any Boyle representative, calls on you, you'll find him serious, concise and thorough in his presentation. He'll confine it to discussion of interest to you, knowing that your time is limited.

On his next visit he would like to talk with you about the products shown on the succeeding pages. If you have any questions regarding these, or other Boyle pharmaceuticals, your Boyle representative will be glad to discuss them with you.

BOYLE

Psychiatric Screening Works for Navy

A workable psychiatric screening program for the Navy not only reduces the "psychiatric casualty" rate but saves money, a survey has shown.

Four Navy officers said a survey shows the system—in effect since 1941—works. And it provides "the beginnings of a psychiatric science of manpower" which can provide the most efficient naval force for the least money.

Capt. George N. Raines (M.C.), Cmdr. Cecil L. Wittson (M.C.), Cmdr. William A. Hunt, and Lt. Cmdr. Robert S. Herrmann, reported on a survey of the Navy screening program in a recent issue of the *Journal of the American Medical Association.*

The program's purpose was not only to eliminate the "frankly unfit" from service but to prevent placement of borderline recruits under service conditions where they would be likely to break down.

They said the screening program was based on the assumption that men are not sharply divided between "fit and unfit." Some "marginal" men can adjust to military service, but at a higher cost. Screeners can establish a "cutting point" below which a recruit is not considered acceptable. How low on the scale between fit and unfit the "cutting point" is placed depends on how badly manpower is needed, how much is available, and how much the national economy can bear. The lower the point, the higher the cost will be.

The officers explained that taking men from the lower part of the scale cost more because of incompleted enlistments and poor quality of service, more hospitalizations, disciplinary problems and medical discharges, and higher after-discharge Veterans Administration medical program costs.

The study showed that the marginal cases, or "doubtfuls," had more medical and disciplinary problems. Another study showed that psychiatric discharge rates rose proportionately among three groups classified as having "mild," "moderate," or "severe" psychiatric difficulties. Discharge rates were 6.5 per cent for mild groups, 20.2 for the moderate, and 89.7 for the severe.

Service records of 217 men sent to duty despite recommendations for inaptitude discharge were studied. Within the next nine months of service 34 were medically discharged, 23 received disciplinary discharges, and 52 administrative discharges.

"Only 108 completed their enlistments, and not a single one of these was rated during his service. . . . They averaged 12 sick days each and had poor disciplinary records, totaling 95 captain's masts and 48 deck and summary courts martial," the officers said.

Illiterate groups who combined low intelligence

(Continued on Page 36)

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REFERENCES:
1. Blanchard, K. and Ford, R. A., Effective Antitussive Agent in the Treatment of Cough in Childhood, Journal-Lancet, 74:443, Nov., 1954.* **2.** Cass, L. J. and Frederik, W., Comparative Clinical Effectiveness of Cough Medication, Amer. Pract. and Dig. of Treat., Vol. 2, p. 844, October, 1951.*
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Psychiatric Screening Works for Navy

(Continued from Page 32)

with some basic personality disorder also had higher rates of psychiatric discharges despite special training after enlistment.

"Unfortunately, completion of service without discharge is no guaranty of the quality of service rendered," they said. This was shown by a study of a normal group compared with marginal groups composed of neurotics, alcoholics, men of low intelligence, and certain psychopaths.

"Every marginal group had a significantly higher incidence of hospitalization than did the normal control group—from four to six times as high," the officers said. "Disciplinary infractions were also much more numerous in the marginal group. . . ."

The officers said the results do not mean that "the marginally adjusted man cannot be utilized by the military services. They merely show that such men are more 'expensive' to the services."

"Our task becomes one of selecting as efficient a force as we can with the manpower available and within the economic potential of our national resources, of providing the necessary military and medical facilities for promoting maximum efficiency in those selected, and of maintaining this efficiency by supporting military and medical procedures," they said.

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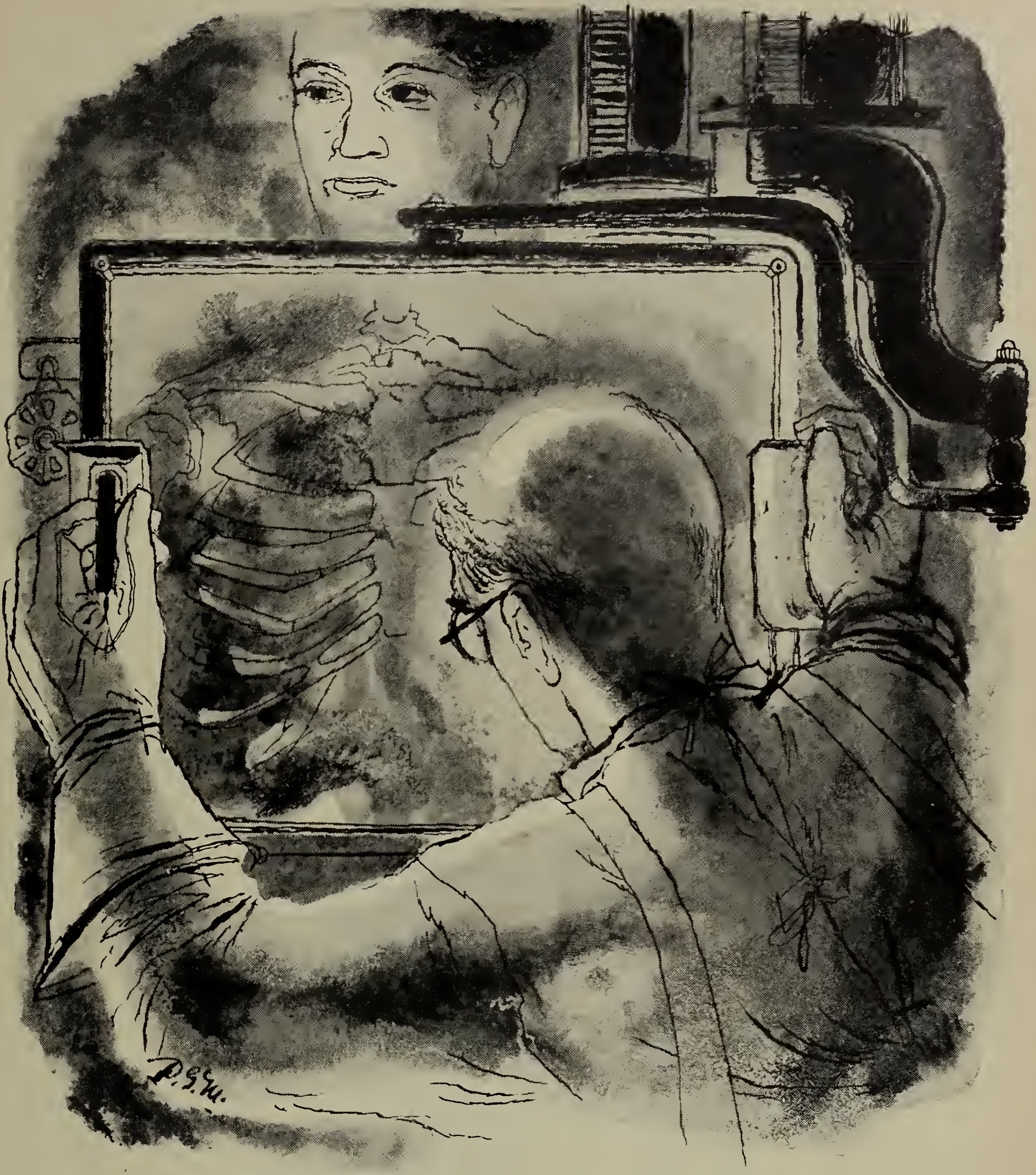

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A new Public Relations Manual for county medical PR chairmen, the first textbook of its kind ever published, is off the presses and will be mailed to state medical societies very shortly.

The manual will be made available to the county society people only through the office of the state medical society. No mailings, other than to the state offices, will be made by the American Medical Association.

The indexed manual is a complete PR primer. It not only reports what other societies have done, but it tells the PR chairman what his own society can do and—even more important—how to do it.

Studies by the A.M.A. have revealed eight basic PR programs which, if put into operation, will woo the understanding and confidence of the public. Spelled out in the manual is the organization and promotion of: emergency call systems, mediation committees, press relations, speakers bureau, society member indoctrination, provision of medical care for all, public service activities and citizenship activities. If a county society has already made a going enterprise of this "basic eight" plan, the manual can stimulate and reinforce the society's activities with its many ideas, suggestions and supplementary projects.

—*The A.M.A. Secretary's Letter*

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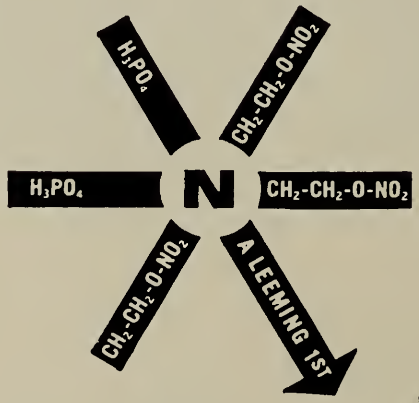

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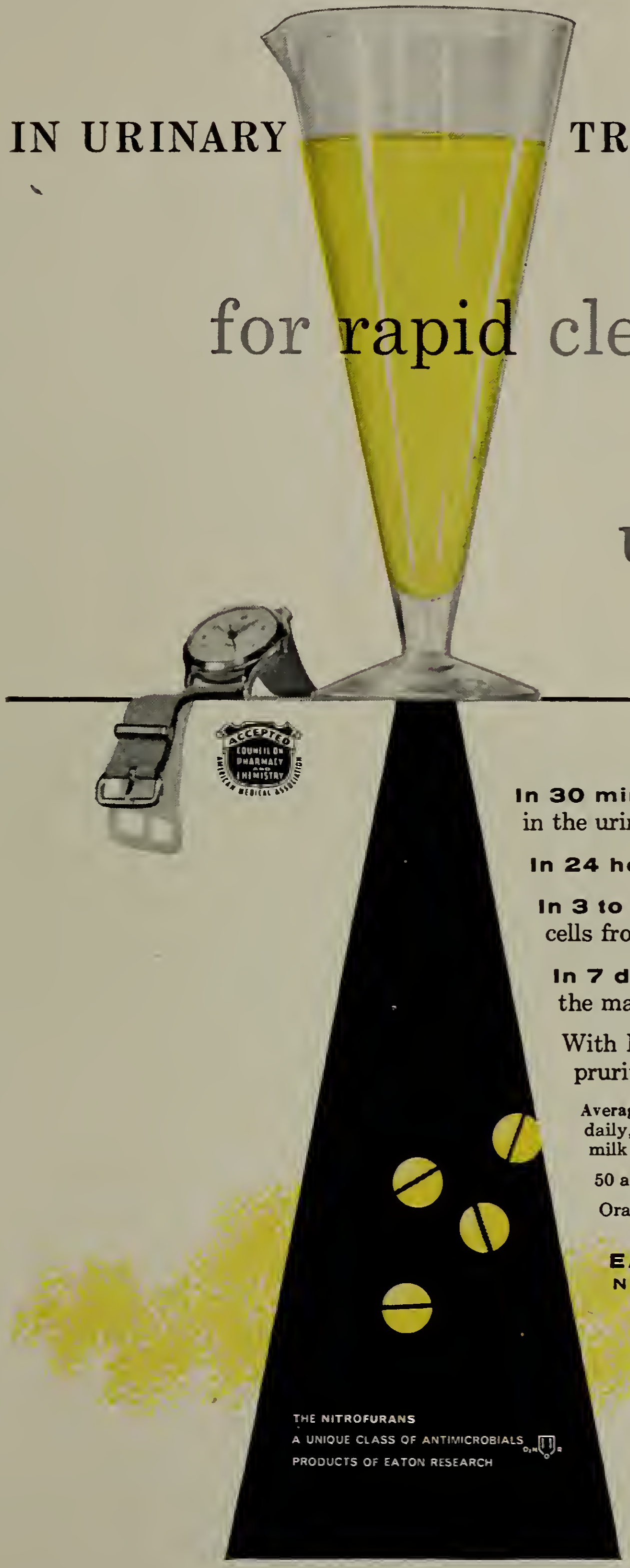

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Researchers Devise New Portable Resuscitator

A search for a hangover cure has led to the development of a portable anesthetic machine and resuscitator that could be used anywhere from a dentist's office to a battlefield.

Dr. Robert A. Hingson, Cleveland, describes the new device in a recent issue of the *Journal of the American Medical Association*. It was developed while researchers at Western Reserve University and the University Hospitals of Cleveland were working on a small oxygen inhalator for use in hangover treatment of acute alcoholism.

The device, without tanks attached, weighs about 17 ounces and can be held in the palm of one hand. It has a rubber face mask, a rebreathing bag, and two aluminum arms to contain gas or oxygen cylinders. Dr. Hingson said it could be used by dentists to replace the local anesthetic used in about 80 per cent of the 85 million dental anesthesias conducted each year. In hospital emergency rooms it would help when a short-time anesthetic is needed, and could be useful in some of the 10 per cent of the nation's births in which delivery is more sudden than is expected.

The pocket-size resuscitator also could be used by patients with heart trouble, at home or in the office; by passengers of planes at high altitudes, and by police and firemen in drowning accidents, mine explosions, fires, and other suffocation emergencies, Dr. Hingson said. The apparatus could be dropped undamaged from a plane even without a parachute to forward positions on the battlefield and in disaster areas. It weighs less than two pounds including gas or oxygen cylinders, while the smallest such unit now in use weighs 40 pounds. It even could be used as a gas mask for 20 minutes to an hour during evacuation from dangerous areas of smoke, poison gas, or incendiary explosives, he said.

400,000 Nurses Now on Duty

Almost 400,000 nurses now are on active duty in the United States, an increase of 16,000 in five years, according to a Public Health Service survey. The estimate shows the following: 231,000 hospital nurses, a 15 per cent increase in four years; 74,000 private duty nurses; 35,200 nurses working in physicians' offices; 25,300 public health nurses; 14,000 industrial nurses; 8,200 nurse educators and 1,900 in a variety of other fields. Although the ratio of nursing personnel to patients is at an all-time peak, 74 per 100, Surgeon General Scheele said the need for nurses justified the present annual student nurse recruitment goal of 55,000.

—*A.M.A. Washington Letter*

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1. Pollock, B. E., and Pruitt, F. W.: Am. J. M. Sc. 226:172, 1953.

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Physicians Need Help to Cure Emotionally Ill Patients

One of the biggest problems of today's physician is the diseases resulting from frustration, loneliness and lack of occupation—diseases he cannot cure alone.

Dr. Robert J. Needles, St. Petersburg, Fla., wrote in a recent issue of the *Journal of the American Medical Association* that what is most needed for persons afflicted with this "modern pestilence" is "better understanding of life away from physicians' offices."

"The medical profession, with all its progress, needs outside help on the problem of the emotionally ill, displaced, abandoned, chronically unhappy, or otherwise handicapped persons," he said. "Physicians can suggest, they can advise, they can warn, but they cannot go with these persons into the community and lead them into new interests and new drives to demonstrate reasons for living."

"This is, and must be, the responsibility of society," he said. "There is too much wastage of human resources in the communities' own back yards . . . new and stimulating opportunities must be furnished from outside the medical profession."

Dr. Needles said the physician does try to cure the patient who suffers chronic fatigue or ever-present stomach complaints, who forever seeks a cure and is made increasingly unhappy by each new medical miracle because "it seems not to apply to him." But all the doctor's efforts may not cure the illness caused by a "sick society"—by too much leisure time and not enough to do, by loss of old values, and by lack of support from other people.

Although this patient's symptoms are quite real—he actually suffers headaches, insomnia, stomach pains, heart distress, and other complaints—the cause is not physical. Functional illness may be "a mask" to hide loneliness, disillusionment, marital infidelity, or economic hardship. The trouble is "with man's conversion into a modern wanderer uprooted from his past, his old assurances and prejudices washed away and not replaced by a new solidity." Part of it is what Dr. Needles called "a loss of community," a loss of old values that used to rule moral behavior, and loss of the family and social support "that used to bolster persons in time of emotional stress." Changes in politics, economics, religion, and family life in the last few decades have left many "without any order of belief."

"Too many persons have been uprooted from their environment or have lost the sources of the reassurance that keeps persons in emotional balance," he said. "Many of them need only to reestablish themselves in a group to find again the reinforcing benefits of friends and neighbors."

In these cases, churches, clubs, and lodges could help. More important, ways and means for developing new interests and skills are needed. These would fill the extra leisure hours made possible by ad-

(Continued on Page 56)

Enriched Bread

a Valiant Guardian Against Deficiency Disease

As a result of the nationwide enrichment of bread, the average American consumes notably more thiamine, riboflavin, niacin, and iron.[1] Enriched bread has thus served as a vigilant guardian against beriberi, ariboflavinosis, pellagra, and iron-deficiency disease.[2]

According to calculated values, the food supply of the nation during 1942-1948 provided 25 per cent more thiamine, 10 per cent more riboflavin, 15 per cent more niacin, and 14 per cent more iron than it would have without the nationwide enrichment of bread and flour.[3,4]

In consequence of this nutritional enhancement of the nation's food supply, enriched bread has been a material aid in improving national nutritional health.[2,4,5,6]

Enriched bread also supplies important amounts of high-grade protein, calcium, and nutrient energy. Its protein, comprising flour protein and milk protein, contributes significantly to sound growth and tissue maintenance.

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1. Groggins, P.H.: The High Price of Eating Well, J. Agr. & Food Chem. *1*:1124 (Nov. 25) 1953.
2. Sebrell, W.H., Jr.: Trends and Needs in Nutrition, J.A.M.A. *152*:42 (May 2) 1953.
3. Nutrients Available for Consumption per Capita per Day, 1909-1948, United States Department of Agriculture, Miscellaneous Publication 694, 1949.
4. Jolliffe, N.: The Pathogenesis of Deficiency Disease, in Jolliffe, N.; Tisdall, F.F., and Cannon, P.R.: Clinical Nutrition, New York, Paul B. Hoeber, Inc., 1951, Chap. 1.
5. Flour and Bread Enrichment, 1949-50, The Committee on Cereals, Food and Nutrition Board, National Research Council, 1950.
6. Sherman, H.C.: The Nutritional Improvement of Life, New York, Columbia University Press, 1950, pp. 86-87.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

AMERICAN BAKERS ASSOCIATION
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Physicians Need Help to Cure Emotionally Ill Patients

(Continued from Page 52)

vances in mass production and big business. When work time in the factory and at home is reduced, the person "has little on which to fall back in his need for useful activity."

"The general impression is that a sizeable group thus emancipated busy themselves with killing each other off on the highways," he said. "Others have turned to television or the more spectacular pastimes induced by alcohol. . . . One need not emphasize the virtue of handicrafts in the therapy of emotional disturbance. Surely it is known that keeping busy, within the physical limits imposed by illness or age, is a valuable practice."

Dr. Needles urged that nongovernmental agencies take an interest in providing tension relief, such as adult education classes in useful sparetime occupations, or local craft and hobby centers. He said "not enough practical effort is being devoted to the most necessary things, giving persons something to do, something they can do themselves, something that will not only serve to take their minds off their internal rebellions but will actually produce a visible and soul-satisfying result."

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A combined full-time course covering an academic year (9 months). It consists of attendance at clinics, witnessing operations, lectures, demonstration of cases and cadaver demonstrations; operative eye, ear, nose and throat (cadaver); head and neck dissection (cadaver); clinical and cadaver demonstrations in bronchoscopy, laryngeal surgery and surgery for facial palsy; refraction; radiology; pathology; bacteriology and embryology; physiology; neuro-anatomy; anesthesia; physical medicine; allergy; examination of patients preoperatively and follow-up postoperatively in the wards and clinics. Also refresher courses (3 months); attendance at departmental and general conferences.

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Heart Kept Functioning by Massage for 24 Minutes

The heart of a 36-year-old woman was kept functioning by hand massage for the unusually long period of 24 minutes, three Tampa, Fla., physicians report.

In most cases of cardiac failure, spontaneous heartbeat usually resumes after about three to seven minutes of massage and oxygen.

Among the longest periods previously reported was one of 30 minutes, during an operation on a two-year-old girl in Indianapolis in 1951. A 30-year-old Philadelphia woman was reported to have had hand and electric massage for 50 minutes before her heart started beating again.

Although damage to the brain is very likely to occur in cases of lengthy heart stoppage, the Tampa woman showed no evidence of damage after the operation or on release from the hospital, the physicians reported in a recent issue of the *Archives of Surgery*, published by the American Medical Association.

"This should encourage others in meeting similar situations to continue their efforts for a long period of time," they said.

The woman had a chronic heart ailment with

(Continued on Page 62)

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Average dose: 5 to 12 tablets daily, in divided doses, at times when vomiting is less likely to occur; or 1 cc. parenteral solution 2 or 3 times weekly.

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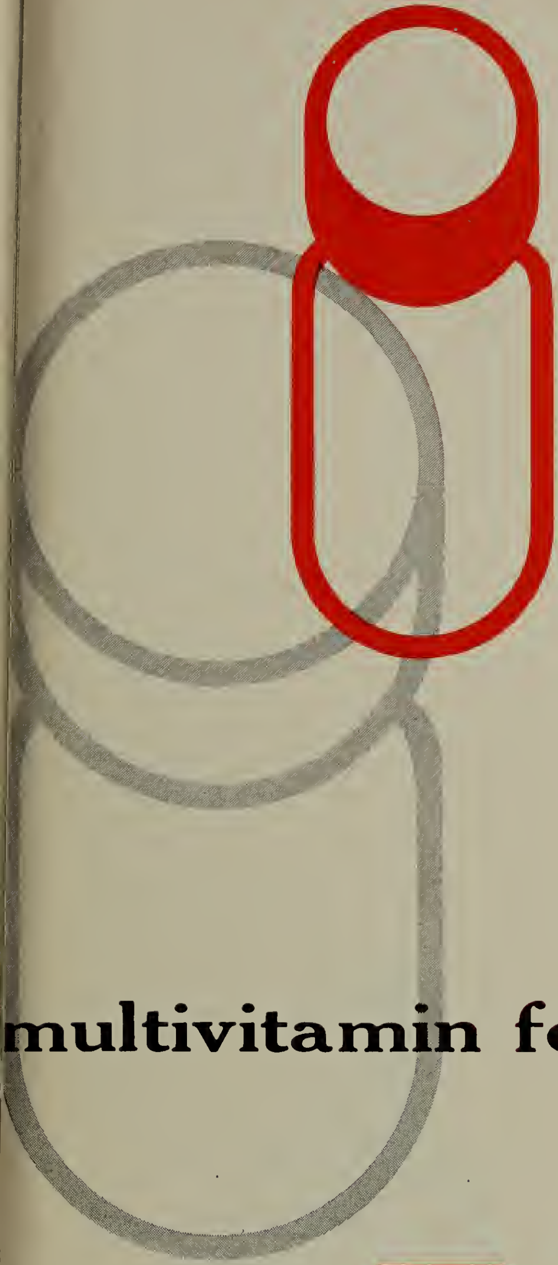

Folic Acid, a member of the vitamin B complex, is now recognized as being an essential nutritional element. It is a vital factor in the formation of not only red blood cells but all body cells and, therefore, is a contributing factor to normal growth.

During infancy and pregnancy, the need for Folic Acid is intensified. Certain macrocytic anemias sometimes observed during those periods are only one of many possible signs of folic acid deficiency, all promptly responding to this vitamin. Although it is found in a number of natural foods, Folic Acid is not usually present in abundance. As with other vitamins, it may be notably absent from certain diets.

When you prescribe a vitamin preparation, particularly for an infant, a growing child, or a mother-to-be, remember the established importance of Folic Acid and specify one of the many products that contain it!

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Folic Acid

TABLE 1.—*Species of human hemoglobin (modified after Itano, H. A., Proc. Nat. Acad. Sci., 37:775, 1951)*

Name of Hemoglobin	Letter Designation	Causes Sickling	Electrophoretic Mobility*	Resistance to Solubility†	Alkali Denaturation
Normal adult	A	No	Slow	High	Normal
Normal fetal	F	No	Slow	High	Increased
Sickle cell	S	Yes	Intermediate	Low	Normal
....	C	No	Fast	High	Normal
....	D	No	Intermediate	High	Normal

*As carbomonoxyhemoglobin in cacodylate-sodium chloride buffer of pH 6.50 and ionic strength 0.1.

†As amorphous ferrohemoglobin in concentrated phosphate buffers of pH 6.8 at 18° C.

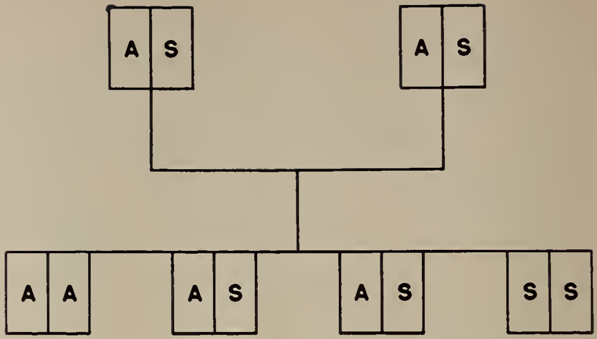

Chart 1.—Inheritance of the gene for sickling.

retic mobility as hemoglobin S and can be differentiated only by the facts that (1) its presence does not make the red cell capable of sickling as does hemoglobin S, and (2) it differs in solubility from hemoglobin S. Hemoglobin F has the same electrophoretic mobility as hemoglobin A but is distinguished from hemoglobin A by its resistance to denaturation in an alkaline medium. The hemoglobin that is present in subjects with thalassemia or the thalassemia trait has the same electrophoretic mobility as normal hemoglobin. As yet, no characteristic variation of this hemoglobin has been found to justify any statement that it is different from normal hemoglobin. It is conceivable, however, that it may be shown to be different at some future time. Indeed, the development of one of the forms of sickle cell disease on the basis of the presence in the same individual of the sickling trait and the thalassemia trait may be due to some as yet undiscovered abnormality in the hemoglobin that is found in subjects with the thalassemia gene.

The foregoing discoveries are of a great deal more than theoretical importance. The most obvious and outstanding practical clinical outgrowth has been the demonstration of the presence of four distinct types of sickle cell disease on a genetic basis. Before the recognition of abnormal adult hemoglobins, only one type of sickle cell disease was known, namely, that which occurred in certain of the offspring of parents both of whom had the sickling trait. It is now well established that sickle cell disease may result from the presence in the same individual of one sickling gene with the following:

1. Another sickling gene—that is, homozygosity for sickling.
2. The gene responsible for thalassemia.
3. The gene responsible for hemoglobin C.
4. The gene responsible for hemoglobin D.

Charts 1, 2, 3, 4 and 5 show the typical patterns of inheritance of the genes for sickling and hemoglobin C and the four genetic situations in which sickle cell disease is known to occur.

Powell, Rodarte and Neel[7] were the first to report in the medical literature of the United States a case of sickle cell disease in a person heterozygous for sickling. The patient was shown to have inherited the sickling gene from one parent and the thalassemia gene from the other parent. While Silvestroni and Bianco[9, 10, 11] had previously reported from Italy a series of five families with this same clinical picture, the presentation of crucial evidence supporting the coexistence of the sickling and the thalassemia genes had not been made. Itano and Neel[1] made the first report of sickle cell disease due to the presence of the sickling gene and the gene for hemoglobin C. In 1951, Itano[2] first recorded data on a patient with sickle cell disease due to the presence of the sickling gene and the gene responsible for hemoglobin D.

It would appear, therefore, that the presence of the sickling gene in association with the gene for one of the other abnormal hemoglobins or with the gene responsible for thalassemia may result in sickle cell disease. Certainly this is true in the instances cited. Whether it will hold true for other abnormal hemoglobins, if such are found, cannot be stated. It can be anticipated that rapid developments in this field will occur and, in fact, during the period of preparation of this report Itano, Bergren and Sturgeon[3] obtained evidence for still another abnormal hemoglobin designated as hemoglobin E. Furthermore, many other combinations of abnormal hemoglobins can be projected. Just what such combinations will bring about clinically is unknown. The ground has hardly been broken in this new field of hematology.

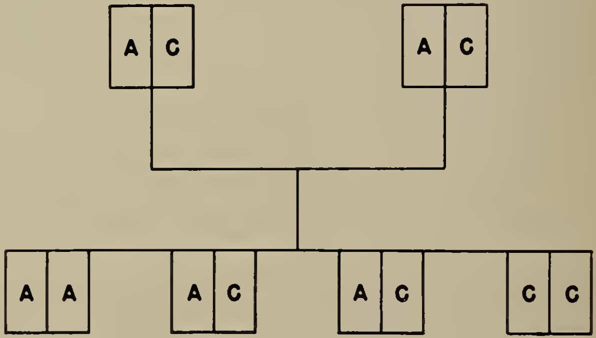

Chart 2.—Inheritance of the gene for hemoglobin C.

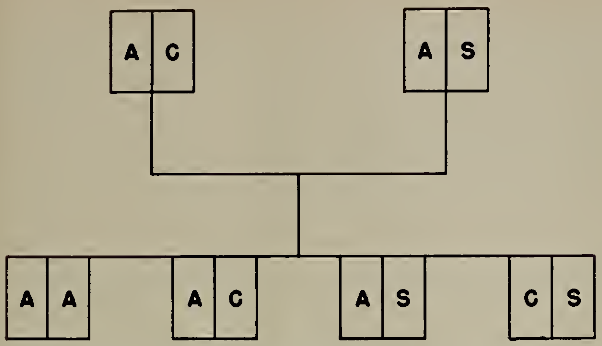

Chart 3.—Inheritance of combinations of the gene for sickling and that for hemoglobin C.

No report of the presence in the same individual of the following combinations has come to notice: CD, CT,* DD and DT.* However, a few cases in which homozygosity for C was present have been reported.[8, 13] Subjects in whom this condition exists apparently do not have severe symptoms. Stained smears of blood show large numbers of target cells and there may be mild reticulocytosis and splenomegaly.

Conditions observed by the authors in subjects with the following will be reported in brief:

1. Homozygous S, i.e., two genes for hemoglobin S.
2. Hemoglobin C and S, i.e., one gene for hemoglobin C and one gene for hemoglobin S.
3. Homozygous C, i.e., two genes for hemoglobin C.

CASE REPORTS

Homozygous Sickle Cell Disease

A 23-year-old Negro man was admitted to Wadsworth General Medical and Surgical Veterans Administration Hospital for the first time on January 29, 1954. The main complaints were shortness of breath and pain in the legs. All his life the patient had had dyspnea and had tired quickly. He had been discharged from the Army in August 1952, after a short period of service, because of fever, jaundice, leg pains, dyspnea and anemia. His parents and three of his brothers were well but one of his brothers was said to have been jaundiced for a week two years ago.

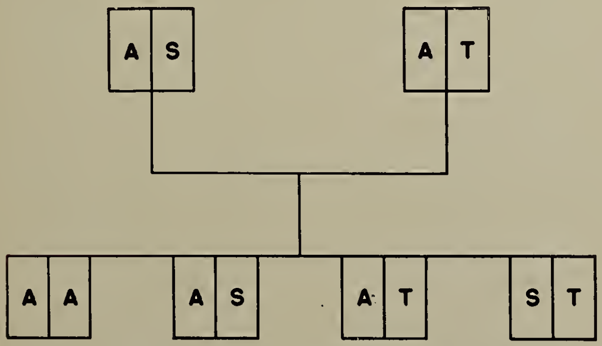

Chart 4.—Inheritance of combinations of the gene for sickling and that for thalassemia.

The patient was poorly developed, slender and eunuchoid in appearance with a short trunk and long, slender extremities. The fingers were suggestive of arachnodactyly. Icterus of the sclerae was noted. The precordium was hyperactive and there was a Grade II blowing systolic murmur at the apex. The heart was at the upper limit of normal size. The liver and the spleen were not palpable.

Erythrocytes numbered 2,080,000 per cu. mm. and the hemoglobin content was 6.4 gm. per 100 cc. Leukocytes numbered 12,400 per cu. mm. The volume of packed red blood cells was 17 per cent of the whole blood. About 75 per cent of the erythrocytes in a specimen of blood obtained from a finger after constriction with a rubber band showed sickling on direct smear. There were three normoblasts for each 100 leukocytes. The reticulocyte count was 3 per cent. Normoblastic and pronormoblastic hyperplasia were noted in a specimen of sternal marrow. The icterus index was 50. Serum bilirubin was 4.55 mg. per 100 cc. (direct, 2.35, and indirect, 2.20). The urinary urobilinogen was 21 mg. in 24 hours. Analysis of hemoglobin by electrophoresis revealed the homozygous S pattern. Jaundice and the other symptoms promptly subsided after the patient was admitted to hospital.

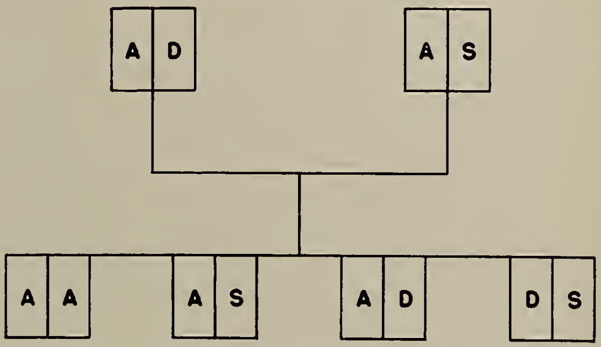

Chart 5.—Inheritance of combinations of the gene for sickling and that for hemoglobin D.

Comment: In this case there were the usual clinical findings of moderately severe sickle cell disease. The history indicated that the patient had been subject to hemolytic crises, and admission to the hospital was due to such a crisis. Present were: Anemia, sickling of large numbers of the erythrocytes, nucleated erythrocytes in peripheral blood, mild reticulocytosis, jaundice, increased urinary urobilinogen and the homozygous S pattern of hemoglobin electrophoretically.

Sickle Cell-Hemoglobin C Disease

A Negro patient was admitted to hospital in January 1952 owing to severe abdominal pain following

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*"T" is employed here to designate the gene for thalassemia although hemoglobin abnormality has not been demonstrated in the condition by methods now available.

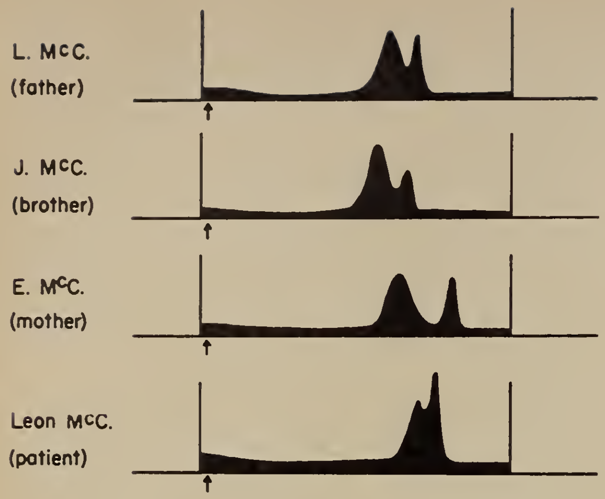


Chart 6.—Electrophoretic patterns of hemoglobin in a family with sickle cell trait and the hemoglobin C abnormality.

an epileptic convulsion. The spleen was large and an intracapsular rupture was present. No symptoms with reference to any hematological disorder were noted. Routine studies of the blood revealed no anemia, but many target cells were present. A sickling preparation was positive for sickling. Electrophoretic studies revealed approximately 50 per cent each of sickle cell and C hemoglobin. Electrophoretic study of blood from the parents of the patient demonstrated heterozygosity for sickling (sickle cell trait) in one parent and heterozygosity for hemoglobin C in the other. Chart 6 shows the electrophoretic patterns in the patient and members of his family.

Comment: Outstanding in this case were the race of the patient (Negro), splenomegaly, target cells, sickling and the electrophoretic findings of S-C hemoglobins. It is probably significant that clinically this is a much more benign form of sickle cell disease than that ordinarily found with the homozygous S disorder. Splenomegaly has been found in most of the patients with this disorder.

Homozygous Hemoglobin C

A well-nourished and well-developed Negro boy 3 years of age was examined by a physician because he was not eating well. No physical abnormalities were noted. Results of routine studies of the blood were normal except for the presence of a large number of target cells and an occasional nucleated erythrocyte. Sickling was not demonstrated. The electrophoretic pattern showed that the hemoglobin was almost entirely of the C type. Both parents showed the A-C hemoglobin pattern electrophoretically (heterozygous hemoglobin C).

Comment: The pertinent findings in this patient were the target cells, the presence of nucleated erythrocytes in the peripheral blood, the demonstration of hemoglobin C as the main type of hemoglobin in the blood cells and the absence of significant clinical symptoms. The absence of splenomegaly is probably unusual as there is some evidence that enlargement of the spleen may be found in patients with this disorder. It is entirely possible that splenomegaly will develop in later life.

DISCUSSION

That certain clinical conditions are associated with the various possible combinations of abnormal hemoglobins is just beginning to be recognized. It seems that homozygous sickle cell disease will continue to represent the most severe type of sickle cell disease although sickle cell-thalassemia disease may run a very similar course. The heterozygous S-C sickle cell disease has been studied in a number of instances and seems to be distinctly milder, as was true in one of the cases (Case 2) reported herein. Target cells are present in great abundance and the spleen is enlarged in the majority of instances. Anemia is less severe than in the homozygous S type of sickle cell disease. As only one case of the S-D type has been reported, it is impossible to make any pertinent comments on this type.

The homozygous C condition has been studied in only a few instances. Observations of the subjects indicate that abnormalities insofar as the clinical symptoms and signs are concerned are not pronounced.

If physicians were on the alert for conditions in which abnormal hemoglobins are present, probably many more clinical instances of such disorders would be noted. A few points with reference to detection of these conditions seem worthy of comment. Most of the cases reported up to the present were in Negroes and persons of Mediterranean extraction. Unexplained anemia in such persons should always raise the question of one of these disorders. If, in addition to anemia, target cells are present in appreciable numbers, suspicion should be increased. Nucleated erythrocytes, jaundice and reticulocytosis are strong suggestive findings. While the demonstration of sickling will not determine what type of sickle cell disease is present, it clearly indicates that at least one gene for sickling is present. Patients who have all or some of the findings mentioned should have detailed chemical and/or electrophoretic studies.

A concerted effort in this regard no doubt will result in the uncovering of many more cases of the already recognized clinical disorders and probably will result in the discovery of previously unidentified disorders due to other genetic combinations involving different types of abnormal hemoglobins.

University of California Medical Center, Los Angeles 24.

1. Itano, H. A., and Neel, J. V.: A new inherited abnormality of human hemoglobin, Proc. Nat. Acad. Sci., 36:613, 1950.

2. Itano, H. A.: A third abnormal hemoglobin associated with hereditary hemolytic anemia, Proc. Nat. Acad. Sci., 37:775, 1951.

3. Itano, H., Bergren, W., and Sturgeon, P.: Personal communication.

4. Körber, E.: Inaug. Dissertation, Dorpat 1866, cited by Bischoff, H.: Untersuchungen über die Resistenz des Hämoglobins des Menschenblutes mit besonderer Berücksichtigung des Säuglingsalters, Zschr. ges. exp. Med., 48:472, 1926.

5. Krüger, F.: Über die ungleiche Resistenz des Blutfarbstoffes verschiedener Tiere gegen zersetzende Agentien., Zschr. Biol., 24:318, 1888.

6. Pauling, L., Itano, H. A., Singer, S. J., and Wells, I. C.: Sickle cell anemia, a molecular disease, Science, 110:543, 1949.

7. Powell, W. N., Rodarte, J. G., and Neel, J. V.: The occurrence in a family of Sicilian ancestry of the traits for both sickling and thalassemia, Blood, 5:887, 1950.

8. Ranney, H. M., Larson, D. L., and McCormack, G. H., Jr.: Some clinical biochemical and genetic observations on hemoglobin C, J. Clin. Invest., 32:1277, 1953.

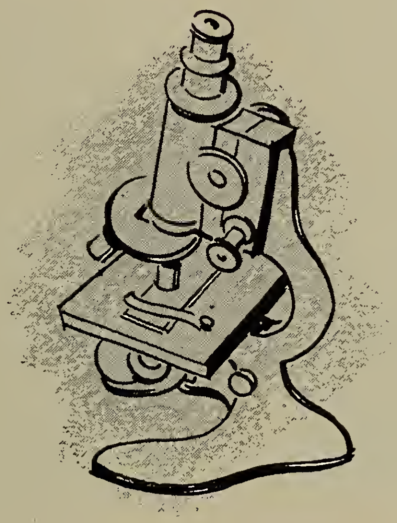
9. Silvestroni, E., and Bianco, I.: Una nuova entita nosologica: "la malattia microdrepanocitica," Haematologica, Pavia, 29:455, 1946.

10. Silvestroni, E., and Bianco, I.: Singolare associazione di "anemia microcitica costitutzionale" con "drepanocito anemia" in soggetto di razza bianca, Policlinico (sez. prat.), 53:265, 1946.

11. Silvestroni, E., and Bianco, I.: Un nuovo caso di malattia microdrepanocitica, Policlinico (sez. prat.), 55:1207, 1948.

12. Singer, K., Chernoff, A. I., and Singer, L.: Studies on abnormal hemoglobins. I. Their demonstration in sickle cell anemia and other hematologic disorders by means of alkali denaturation, Blood, 6:413, 1951.

13. Spaet, T., Alway, R. H., and Ward, G.: Homozygous type "C" hemoglobin, Pediatrics, 12:483, 1953.



Normal Micturition

Certain Details as Shown by Serial Cystograms

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• *Serial cystograms were made during micturition, using a roll film cassette. It was observed that detrusor contraction can be the first activity in normal urination, immediately followed by relaxation of the perineum. The "external sphincter" can shut off the urinary stream as an isolated movement preceding elevation of the bladder base.*

THE SEQUENCE in normal micturition was restudied recently by Muellner[2] by fluoroscopic examination during voiding of a radiopaque solution. He reported that increased intra-abdominal pressure and relaxation of the perineum start the voiding reflex, with the detrusor then reflexly contracting and emptying the bladder. He saw no contraction of the "external sphincter" as the initial action in stoppage of the stream.

PRESENT STUDIES OF NORMAL MICTURITION

In the present studies, on serial films using a roll film cassette (Fairchild) (Figure 1), the sequence of activities during micturition in normal women was recorded. The intervals between exposures was 0.5 seconds and the time of exposure 0.6 seconds, for a total interval of 1.1 seconds.

The relaxed bladder empties in a different fashion from that of the already contracted bladder. That is to say, a subject who has no desire to urinate has a different voiding sequence from one who has an intense urge to void. The sequence with a relaxed bladder was seen to be first contraction of the detrusor, followed immediately by lowering of the bladder base. Opening of the internal, then the "external sphincter" followed.

The contracted bladder, producing the urge to void, was seen to have an already open internal sphincter. Upon the command to void, the subject lowered the bladder base (Figure 2) and then opened the external sphincter (Figure 3).

Cessation of urination in mid-stream was brought about by voluntary closure of the external sphincter (Figure 4) followed by elevation of the pelvic musculature (Figure 5) with relaxation of the detrusor (Figure 6).

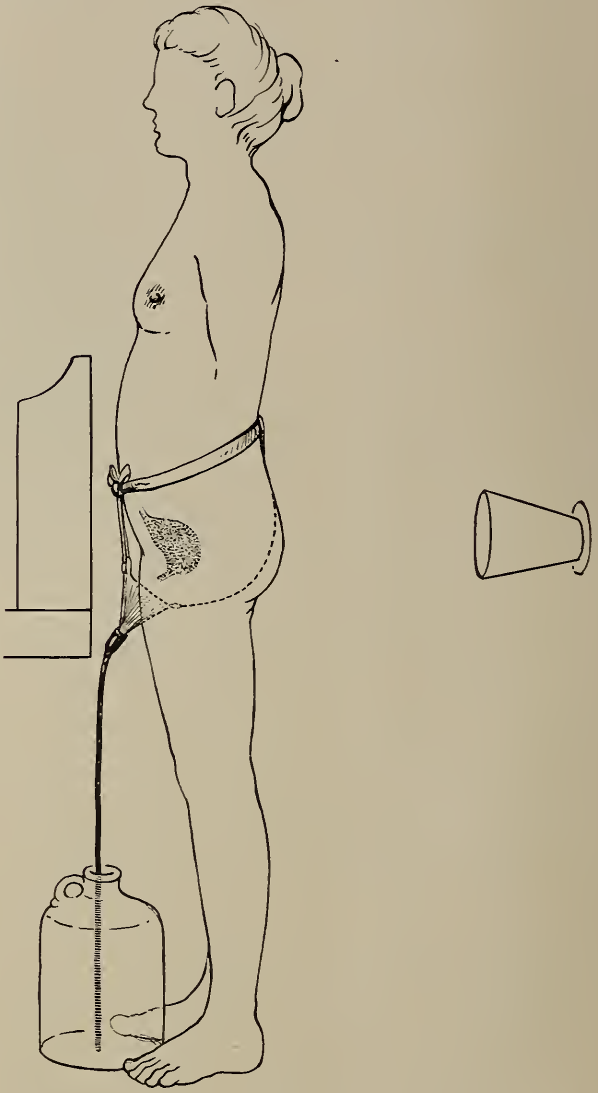

Figure 1.—Diagram showing female patient standing before the Fairchild roll film cassette. Between her legs is strapped a plastic funnel leading to a collection bottle. The bladder has been filled with 200 cc. of radiopaque solution.

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Some of the observations in the present study were at variance with those previously reported by other investigators. It was not confirmed that increasing intra-abdominal pressure with relaxation of the perineum necessarily initiates the voiding reflex; detrusor contraction can come first. And urination can be stopped by isolated contraction of the distal portion of the urethra (the "external sphincter" of the female). The observations herein more closely agree with those from the classic pressure recordings made by Denny-Brown and Robertson[1] 20 years ago.

REFERENCES

1. Denny-Brown, D., and Robertson, E. G.: On the physiology of micturition, Brain, 56:149-190, 1933.

2. Muellner, S. R., and Fleischner, F. G.: Normal and abnormal micturition: a study of bladder behavior by means of the fluoroscope, J. Urol., 61:233-241, 1949.

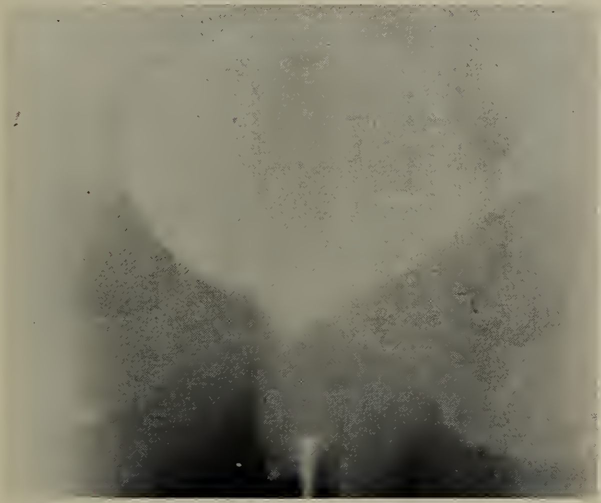

Figure 2.—Relaxation of pelvic musculature.

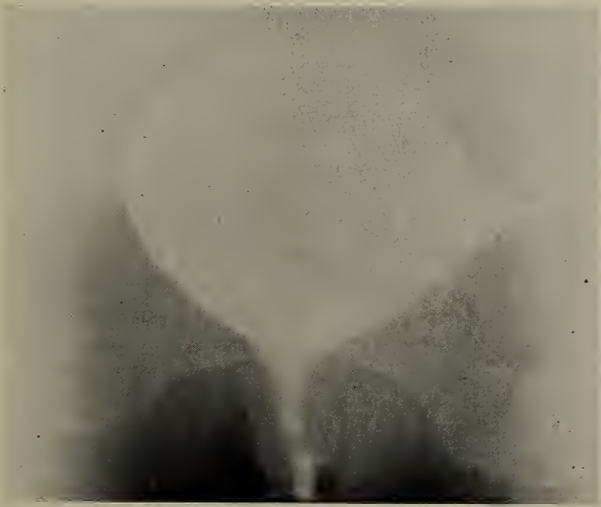

Figure 3.—External sphincter opened.

Figure 4.—Voluntary closure of external sphincter.

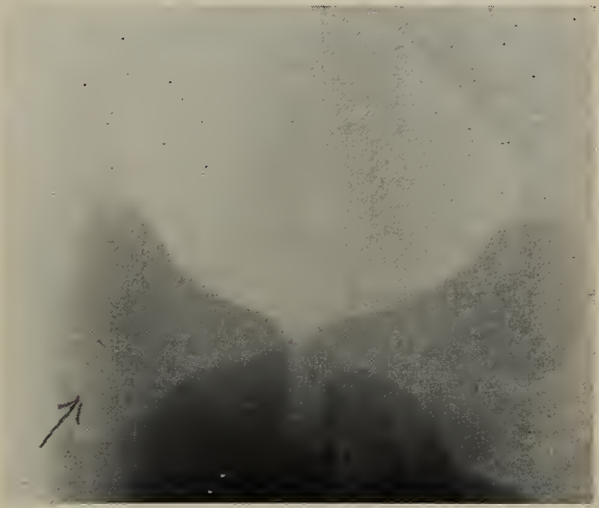

Figure 5.—Elevation of pelvic musculature.

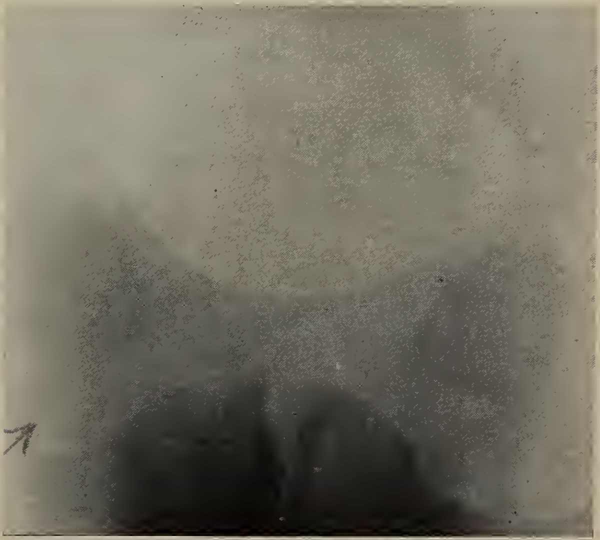

Figure 6.—Elevation of pelvic musculature with relaxation of the detrusor.

Barium Reduction of Intussusception in Infancy

EDWARD J. DENENHOLZ, *M.D.*, and GEORGE. S. FEHER, *M.D.*, Modesto

• Barium enema reduction was used as the initial routine treatment in 29 infants with intussusception. In 22 of them the intussusception was reduced by this means. In three of eight patients operated upon the intussusception was found to be reduced. Four of the remaining five patients had clinical or x-ray evidence of complications before reduction by barium enema was attempted.

Twenty-one of the patients, all of whom were observed in private practice, were treated without admission to the hospital. After reduction, these patients were observed closely by the clinician. None of these patients showed clinical or x-ray signs of complications before reduction.

Certain clinical and roentgen criteria must be satisfied before it can be concluded that reduction by barium enema is complete.

If there are clinical signs of complications with x-ray evidence of small bowel obstruction, only a very cautious attempt at hydrostatic reduction should be made. As the time factor is generally a reliable clinical guide to reducibility, the late cases should be viewed with greater caution. Long duration of symptoms, however, is not per se a contraindication to an attempt at hydrostatic reduction.

OPINION AS TO the relative merits of the operative and nonoperative treatment of intussusception in infancy varies widely. One view, probably that of a majority of surgeons and pediatricians, is that this condition demands prompt surgical intervention and that barium enema has no real place in the therapeutic regimen. Ravitch[16] and others,[4] however, believe that treatment of an infant with intussusception should be begun with an attempt at hydrostatic reduction, and that the majority of patients with intussusception in infancy can be successfully treated by this means. Although this nonoperative treatment has long been the method of choice in the Scandinavian countries,[11, 12] and in Australia,[6, 10] it has been looked upon with some distrust in this country. Renewed interest in the nonsurgical method was stimulated, however, by the observations of Ravitch and co-workers.[14,15,16] After extensive clinical and experimental observation, these investigators concluded that mortality, morbidity, and length of hospital stay are all lessened by the hydrostatic as compared with the surgical method. Ranging between these two opposing beliefs are numerous gradations of opinion, including the proposal that barium reduction may be employed, but that it should be followed in each instance by laparotomy to verify reduction.

PRESENT STUDY

The present report is based on observation of 29 consecutive infants with intussusception who were treated in private practice in a four-year period ended in April 1954. The infants in this study ranged in age from 5 months to 32 months. Fifteen were under one year of age, 10 between one and two years, and four over two years of age. The duration of symptoms at the time the patient was first observed varied from one hour to five days. In eight cases symptoms were present for less than 12 hours, in ten from 12 to 24 hours, in three from 24 to 48 hours, in three from 48 to 72 hours, and in five over 72 hours.

All infants suspected of intussusception were given a barium enema examination to confirm the diagnosis; and, if intussusception was observed, hydrostatic reduction with barium was used as the initial treatment. All the barium reduction procedures were performed by one of the authors (G.S.F.) or by his associate. The clinical examinations were made either primarily, or in consultation, by one of the authors (E.J.D.) or his associates, in all but five patients. These five patients were referred directly for roentgen study by the family physician. With the exception of one patient in whom the examination was made in the hospital, all x-ray procedures were carried out in the office of the radiologist. This was originally done because of the superior facilities in the office as compared with the hospital, but was continued because of the gratifying results. Early in the study, a surgeon was notified routinely that barium reduction was being attempted, so that the operating room could be alerted. As the study progressed, this procedure was followed only in complicated cases in which it was suspected barium reduction might not be effective or feasible.

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Patients in whom barium reduction was successful were not admitted to the hospital. Instead, they were observed in the radiologist's office for 30 minutes to one hour, and if no evidence of recurrence of symptoms developed, the patient was permitted to return home. In the majority of cases, the pediatrician was present for all or part of the procedure and instructions to parents as to care of the patient at home were given by him. Fluids were given by mouth as soon as the infant appeared to want them after reduction. Antibiotics were administered to some of the infants in whom the intussusception had been present for over 24 hours as a prophylaxis against specific diarrhea, and antibiotic therapy was also continued in cases in which they were already being administered for antecedent illness. The parents were asked to report immediately any recurrence of symptoms and to make a progress report by phone in two to eight hours, the time of report depending on the time of day or night and upon the nature of the case. They were informed of the probable development of loose stools for a day or two and of the possible presence of blood and mucus in the first stools following reduction. In all cases it was asked that the patient be returned to the pediatrician the following morning for examination even in the absence of symptoms. The one patient in whom the intussusception was reduced in the hospital (at 2 a.m.) was discharged eight hours following the reduction. The patients in whom reduction was considered not to have been effected were immediately referred to the hospital. In all but two of these patients the condition was recognized as late or complicated, and the probability of the need for operation had already been discussed with the referring family physician or with the surgeon when the nature of the case was revealed to the pediatrician or the radiologist.

TECHNIQUE OF BARIUM REDUCTION

The technique of hydrostatic reduction has been described in detail by Ravitch and McCune,[16] and by Girdany, Bass and Grier.[4] Since the authors have employed some modifications, however, a brief outline may be worth while.

The examination begins with a plain film of the abdomen. If this shows evidence of small bowel obstruction and/or peritonitis, barium enema is performed with great caution.[7] (This policy was adopted because in earlier studies it was observed that in cases in which there was clinical evidence of complications, such as peritonitis, intestinal obstruction, toxemia and prostration, and x-ray evidence of small bowel obstruction, hydrostatic reduction was not successful.) Before the x-ray studies are started, the parents of the infant are instructed in immobilizing the infant, and particularly in the manner of compressing the baby's buttocks to prevent expulsion of the tube. Enlisting the aid of the parents serves two purposes: (1) it is psychologically sound, since the parents feel that they are actively aiding in the treatment of their child, and it avoids anxieties that may result when they are not permitted in the examining room or when they view formidable restraints. (2) It prevents undue exposure of the x-ray personnel. No mechanical restraints or sedation were employed.

A child's-sized, ungreased Bardex catheter is inserted into the rectum and inflated. The barium is permitted to enter the rectum and distal colon. After the intussusception has been recognized fluoroscopically, spot films are made. Reduction is then begun by slowly elevating the enema container from a position slightly above table level to that needed to overcome the resistance of the intussuscepted area. In the majority of cases this is three to three and a half feet above the level of the table. In no case is the container raised more than four feet above the top of the table. During the reduction, spot films of the advancing barium column are made. In cases in which there are no complications, if the barium reaches an impasse and does not enter the terminal ileum within a few minutes, the patient is allowed to evacuate and the procedure is begun again. In some cases reflux into the ileum occurs during the evacuation, and the intussusception is found to be reduced. At times evacuation is accomplished accidentally and after the second filling the reduction is then completed with relative ease. No more than three fillings are used in any patient, and rarely is it necessary to use even three. At no time is manual palpation used. In the late or complicated cases, as evidenced by clinical and x-ray findings, only one cautious attempt at barium reduction is made. If this is unsuccessful, the patient is promptly referred for operation.

CRITERIA FOR REDUCTION

In the present series certain clinical and radiologic criteria had to be satisfied before reduction was considered complete. Clinically, a dramatic and striking change in the patient is evident when reduction has been effected. An infant who previously has been screaming in intense agony, or who has been extremely apathetic and listless between episodes of abdominal pain, will abruptly fall into a deep sleep on the examining table, or will begin to smile or become active or engage in play. If an abdominal mass was previously noted, it will have disappeared.

Many patients, especially if treated early, will show no particular symptoms during the 24 hours following reduction. It should be recognized that some patients will have loose stools (postreduction diarrhea) for one to two days following reduction. Blood in the stools with mucus is also often present the day following reduction. Occasional abdominal pain or cramp, usually not severe, may less frequently occur. These symptoms are similar to those that are seen after surgical reduction, but are generally much less severe. Observation of the patient soon reveals that reduction has been complete, since the pain is only fleeting, the infant is active, stools without blood are passed, and vomiting, distention, shock, and abnormal abdominal findings are not present. It is of utmost importance to recognize the postreduction symptoms for what they are, for if misunderstood they may lead to considerable anxiety and even unnecessary operation. Fever, except of slight degree, is not usually present after barium reduction, as it is after operative treatment.

Radiologically, reduction is diagnosed when the cecum is filled and there is a free flow of barium into the terminal ileum. It is important to recognize that a filling defect at the ileocecal valve, after the terminal ileum has been filled, is often due to edema of the mucosa, rather than to incomplete reduction.

RESULTS

In 22 of the 29 patients reduction was successfully accomplished by means of barium enema as described.* In all patients in whom intussusception was present for 48 hours or less, barium reduction was successful. One of these patients was operated upon, however, because of the family physician's insistence, and at operation the intussusception was observed to be reduced. In two additional patients early in the series the radiologist was not certain that complete reduction had occurred and operation was carried out. In both instances, the intussusception was found to be reduced. It is recognized that anesthesia may have brought about the reduction in these patients, and they are not considered as having had reduction by hydrostatic means. In the remaining five patients, barium reduction was unsuccessful and operation was performed. These patients first came under observation late and the duration of symptoms before barium reduction was attempted was 50, 74, 88, 96 and 120 hours. In one of these patients the intussusception was found to be partially reduced immediately distal to the cecum and was easily reduced at operation. In four patients clinical evidence of complications, such as toxemia, prostration, fever (102° to 104° F.) and a variable degree of distention, was present. In three of these patients there was evidence of small bowel obstruction on a plain film of the abdomen. In all five patients intussusception of considerable magnitude was observed at operation. The intussusception was reducible at operation in three patients and in the other two it was considered nonviable and irreducible. In one of these a primary resection was done, with recovery. Two patients died. One of them (who had had symptoms for 96 hours before operation) died of toxemia about 40 hours after operation. The other (in whom symptoms had been present for five days) died 12 hours postoperatively of peritonitis and toxemia.

DISCUSSION

The obvious advantage of barium reduction is that in many instances the infant is spared anesthesia and an abdominal operation, although the advocates of operative treatment point out that the surgical mortality is low. A comparison of mortality rates by the two methods of treatment has been cited by others. Our small series does not lend itself to such a comparison. Another advantage is the lessening of morbidity. The studies of Ravitch,[15, 16] and of Bass and Girdany,[1] indicated a considerable shortening of the hospital stay as well as a decreased incidence of fever, diarrhea and vomiting in the nonoperative patients as compared with the operative.[1] As far as is known, the present study is the only one in which the majority of the patients were treated on an outpatient basis. Of 28 patients reported by Bass and Girdany,[1] four were returned home immediately after operation. Twenty-one of the patients in the present series were not admitted to the hospital at any time. It should be pointed out, however, that all these patients were observed in private practice, that they could be followed closely, and that parental cooperation could be expected. It should be emphasized that this procedure would not be applicable, except in selected instances, in clinic practice.

As was stated previously, the major objections that have been raised to reduction of intussusception by this method are that: (a) gangrenous bowel may be reduced; (b) a rupture of the bowel may be brought on by the barium enema; (c) a specific etiologic factor for the intussusception, such as a Meckel's diverticulum or polyp, may be overlooked; (d) ileoileal intussusceptions cannot be diagnosed by this method; (e) it is difficult to be certain by x-ray that reduction has occurred; and (f) the procedure is tedious and may thus cause serious delay in the patient's treatment. Experimental studies have shown that gangrenous bowel cannot be reduced by this method, and that much greater pressures than those used for reduction are required to produce intestinal rupture.[11, 15] The burden of the pressure in the hydrostatic method is borne by healthy bowel and is diffusely distributed. Actually, the method is quite similar to that employed for reduction at operation. Essentially, the surgeon by squeezing the bowel distal to the intussusception increases the intraluminal pressure and forces the intussusception back. This is precisely what the barium does in the hydrostatic pressure method, except that the enema does not contuse the bowel wall or abrade the serosa.

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*Since this report was written, intussusception was reduced by barium enema in three additional early cases.

In the majority of instances of intussusception in infancy no specific etiologic factor is found at operation. Lesions such as Meckel's diverticulum or polyps are more likely to be encountered in older children. In no instance in this series did a patient return because of symptoms that could be attributed to a causative lesion that was missed at operation. There were no recurrences in patients in the present series. The authors agree with Ravitch and Morgan[16] that, should recurrence develop, barium reduction should be done and the abdomen then explored for the presence of a possible causative lesion.

In the great majority of cases, intussusception is ileocecal or ileocolic. There were no cases of ileoileal intussusception in the present series. This condition cannot be diagnosed with certainty by the method described herein, but in the event of failure to find barium enema evidence of ileocolic intussusception, in the face of a suggestive clinical picture, together with x-ray evidence of small bowel obstruction, the authors would promptly advise surgical intervention.

The diagnosis of adequate reduction can usually be readily made by means of the barium enema. One of the troublesome features is the presence of a filling defect at the ileocecal valve following attempt at reduction. In the authors' experience, if the barium flows freely into the terminal ileum and if the patient shows obvious improvement as previously noted, the defect is due to edema and does not indicate incomplete reduction. The identical defect has been observed in patients who were given barium orally after successful surgical reduction.[4] If the criteria previously cited are not present, the patient should be promptly subjected to operation.

Ileocecal or ileocolic intussusception can readily be diagnosed, even before clinical symptoms are acute, by means of barium enema. Although many observers[2, 5, 13] feel that barium enema is rarely needed to confirm the diagnosis, the authors have found it a very helpful clinical tool. Since the patients in the present series were observed in private practice, they were, as a group, brought to us for examination earlier than would patients in a clinic series. Five of the patients were seen between one and four hours after the onset of symptoms. It is in early cases that the barium enema is of most value. Perhaps the infant's color is good and he plays between attacks. There may be no shock, no bloody stools or bloody mucus on the examiner's fingers and no abdominal mass present. A plain film of the abdomen may show no abnormality. Oftentimes the infants have either mild enteritis or upper respiratory tract infection preceding the attack, and these conditions may cause deceptive variations in the clinical picture. It is in such circumstances that barium enema may be most helpful either in confirming the diagnosis or in showing a free flow of barium into the ileum. And in either event it is probable that the patient can be spared operation. If intussusception is present, an attempt at barium reduction may be made readily. It is possible that the feeling which appears to exist among some surgeons that intussusception is easy to diagnose, may well have resulted from the fact that the patients they examine are often first screened by the pediatrician or family physician.

The procedure need not usually be tedious or time-consuming. It can be started much sooner than an operation and it takes about 20 to 30 minutes. If operation has to be done later, in some instances, the intussusception will have been partially reduced by the enema, thus facilitating the surgical procedure. Ravitch[16] advocated a simple McBurney incision in such instances.

The time factor is of great importance in the success of barium reduction. Generally speaking, the earlier the patient is treated, the more readily can barium enema reduction be effected. Irreducibility is determined by adhesions between the sheaths and by the degree of edema. Both factors increase with time. Duration of symptoms alone is not entirely reliable however; in a few late cases in the present series, reduction was relatively easy and in a few early cases it was more difficult. Although not observed by us it is conceivable that complications might be present in early cases. In cases in which there were complications, intestinal obstruction or peritonitis, reduction was not accomplished with barium enema; but in those cases it was done only with difficulty at operation, if it could be done at all.

In the present series an attempt was made to obtain close cooperation between the pediatrician and radiologist. The responsibility for prompt referral of the patient to the radiologist for an attempt at reduction and the close observation and contact with the patient following reduction rested primarily with the clinician. The radiologist's responsibility lay in adequately carrying out the attempt at reduction and in the x-ray recognition of a successful reduction or of failure. The decision to desist or persist in efforts at reduction was a joint one, arrived at in each case by an appraisal of the entire clinical picture. The great majority of the reports in the literature concerning the treatment of intussusception and evaluating the various methods of treatment have been made by surgeons. Ravitch, a surgeon and proponent of barium reduction, emphasized strongly that barium reduction is a surgical procedure. The authors feel that it is primarily a roentgen technique to be pursued by radiologists in close cooperation with pediatricians, general physicians or surgeons, as the situation presents. It is of interest that of the patients seen by the authors from the outset of symptoms, there was only one in the entire series subjected to operation. In that instance, early in the series, the clinician and the radiologist felt some doubt that successful reduction had occurred; but at operation complete reduction with viable bowel was observed.

We concur with Girdany, Bass, and Grier that the radiologist should become fully acquainted with the clinical aspects of intussusception and expert in the technique of hydrostatic reduction. Interest and willingness are most important; half-hearted, routinized attempts at reduction are usually doomed to failure.

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REFERENCES

1. Bass, L. W., and Girdany, B. R.: Intussusception: a review of 172 cases with comparison of results of treatment by hydrostatic pressure and by surgery, Abs. Trans. Am. Ped. Soc. A.M.A. Amer. J. Dis. Child., 86:625, 1953.

2. Caffey, J.: Pediatric X-ray Diagnosis, Year Book Publishers, Chicago, 1950, p. 442.

3. Gellis, S. S.: Editorial comment, Year Book of Pediatrics, Year Book Publishers, Chicago, 1953-54, p. 207.

4. Girdany, B. R., Bass, L. W., and Grier, G. W.: Reduction of ileocecal intussusception by hydrostatic pressure, Radiology, 60:518, 1953.

5. Gross, R. E.: The Surgery of Infancy and Childhood, W. B. Saunders Co., Philadelphia, 20:287, 1953.

6. Hipsley, P. L.: Intussusception and its treatment by hydrostatic pressure based on analysis of 100 consecutive cases so treated, M. J. Australia, 2:201, 1926.

7. Ji-Toong, L.: Intussusception in infants and children, Radiology, 62:504, 1954.

8. Kahle, H. R., and Thompson, C. T.: Diagnostic and therapeutic considerations of intussusception, Surg. Gyn. and Ob., 97:693, 1953.

9. Moore, T. C.: Management of intussusception in infants and children, Ann. Surg., 135:184, 1952.

10. Nelson, T. Y.: The place of hydrostatic pressure in the treatment of intussusception, M. J. Australia, 1:825, 1949.

11. Nordentoft, J. M.: Conservative treatment with barium enema of intussusception in children, Acta Radiol., 20:128, 1939.

12. Nordentoft, J. M.: The value of barium enema in the diagnosis and treatment of intussusception in children. Illustrated by about 500 Danish cases, Acta Radiol. (Supp.), 51:5, 1943.

13. Potts, W. J.: Brennemann's Practice of Pediatrics, W. F. Prior Co., Hagerstown, Md., 3:64.

14. Ravitch, M. M., and McCune, R. M.: Intussusception in infants and children, J. Ped., 37:153, 1950.

15. Ravitch, M. M., and McCune, R. M.: Reduction of intussusception by barium enema: a clinical and experimental study, Ann. Surg., 128:904, 1948.

16. Ravitch, M. M., and Morgan, R. N.: Reduction of intussusception by barium enema, Ann. Surg., 135:596, 1952.

Instruction of Mothers in Well Baby Care

A Program of "Talks" at Monthly Visits

MILO B. BROOKS, M.D., Los Angeles

• *As advisor and counsellor of mothers, a physician can contribute greatly to preventive medical care of infants. Advice can be given piecemeal, but according to a program.*

At birth the mother is reminded of the importance of emotional environment in shaping the life and personality of the child. The most important thing the mother and father do during the first year is enjoy their baby.

At six months each monthly visit includes a discussion period. First is the concept of balanced diet and control of diet. At the seventh month, the mother learns how to report an illness—how to get information she wants and to give information the physician wants. Eighth month: Care of minor illness—necessity for rest and the importance of withholding food to promote rest; and the importance of fluids. Ninth month: Discussion of shoes. Eleventh month: Training for toilet and other habits; discussion of attitude toward thumb-sucking. Twelfth month: Stress household accidents, which cause more deaths than all infectious diseases combined.

As ADVISOR AND COUNSELLOR of mothers of infants in matters of preventive medical care of their babies, the author follows a procedure that is a means of giving a short course of infant care to every new mother along with the monthly supervision of her infant, especially through the second six months.

Soon after the birth of an infant the mother is reminded of the importance of emotional environment in shaping the life and personality of the child. Particular emphasis is placed on the mother and father enjoying their baby during its first year, since the direction of the child's disposition and personality is largely determined by the time he is one year old. The pattern may not be fixed at this time but will become so unless changed.

The parents must not be afraid to enjoy their baby and they should not confuse enjoyment with spoiling. Spoiling the child is teaching him to be unpleasant to get his normal needs. Bakwin[1] put it this way: "If a child feels confident of his parents' affection, esteem and respect, the parents can do almost everything wrong and the child will still turn out all right."

A great help in the enjoyment of the baby is the simplification of feeding brought about in recent years by modern methods of sanitation and preparation of milk and baby foods. One of the great advantages of breast feeding is that it simplifies care and, in freeing the mother from tedious time-consuming tasks, allows her time to enjoy the baby.

A new mother will be flooded with good advice freely bestowed by friends and relatives. She will need a place to park these well-meant but superfluous gems. She may tactfully say, "I will make note of your suggestion to ask the doctor." Thus, she removes the worry from her mind and flatters the would-be benefactor. A "worry list" saves the mother a lot of anxiety.

During the first six months concern is largely with diet and formula changes and additions. Modern sanitation, pasteurization, and almost universal home refrigeration, as well as the many excellent prepared evaporated milk and ready-made powdered preparations, have made formula problems largely a thing of the past. In recent years various formulas have been advocated as ideal—high protein, high calorie, plain whole milk, skim milk, pasteurized milk—all with equally satisfactory results. The simple procedure of adding a sufficient amount of boiled water to a can of evaporated milk to make one quart of formula makes a very simple and satisfactory feeding. Later, adding cereal for carbohydrate when needed avoids the conditioning of a baby to sweets.

The rush to start semi-solid foods motivated by well meaning and eager food companies is subsiding, for better reasoning. It is being recognized that many foods are not well assimilated during the first three months. Foods need be added only when they fulfill a purpose—not by age. Seeing pureed food so readily recognized in the stool the next day makes one wonder if it would not save the baby a lot of trouble to put the stuff in the diaper in the first place.

The canned vegetables, fruits and meats are great labor savers providing they are not set up as little tin gods—destroying mother's confidence in her own cooking. Mother may be afraid to feed the baby anything she has cooked herself. Unfortunate is the

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family that raises a baby in its home without improving the whole family's diet.

The modern trend in immunization has moved to a younger age. About three months seems to be the average now for starting. This is the time for maximum protection against whooping cough and immunization causes the infant less emotional disturbance. The immunization schedule shown here is one used by many pediatricians.

3 months	DPT*		Smallpox
4 months	DPT		
5 months	DPT		
1 year	DPT	Tuberculin	
3 years	DPT	Tuberculin	
5 years	DPT	Tuberculin	Smallpox
7 years	DPT	Tuberculin	
10 years	DPT	Tuberculin	Smallpox

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*Diphtheria-Pertussis-Tetanus.

During the second six months, each monthly visit has a discussion period in which attempt is made to highlight some important concept of the total picture of child care. At this time attention is given to "a balanced diet":

Milk	1 pint, minimum; 1 quart, maximum
Protein	1 egg or 2 tablespoons of meat or fish
Vegetable	2 to 5 tablespoons
Fruit	2 to 5 tablespoons
Cereal	2 to 5 tablespoons
Vitamins	
Sun Baths	

Attempt to get the parent to see an overall picture of a whole day's diet rather than two tablespoons of cereal at 10 a.m., etc. It really doesn't matter which food is given at any one meal.

A balanced diet can be based on the type of food least well taken; then equivalent proportions of all other foods may be given. It would be impossible to make the child take more of what he likes least. The old insistence that "a child should clean up his plate" should give way to its original meaning that not so much should be put on the plate. It could not possibly mean, as is often interpreted, that a child should eat all that someone puts on his plate.

Every child is born with certain inalienable rights which he defends to his utmost. These rights are: to eat, sleep, breathe and go to the toilet without interference or regimentation. Even a gentle dog growls when someone comes near him while he is feeding.

At the seventh month the mother is instructed on how to report an illness. She is taught how to collect and organize the information a doctor will want, specifically: (1) name and age; (2) main complaint; (3) symptoms and temperature, in order of occurrence; (4) treatment so far. She is told, also, to have paper and pencil ready at the time she calls. This little outline was conceived for the sole purpose of saving the physician endless listening and sifting of irrelevant data. In practice, this outline has halved the time consumed by numerous phone calls.

At the eighth month, instruction on the subject of the care of minor illnesses is given according to this outline:

I. *Rest*
  Bed
  Light diet
  Aspirin
  Sedatives
  Nose drops
  Cough syrup
  Steam

II. *Fluids* (water)
  Elimination:
    Bowels
    Urine
    Sweat
    Breath
  Mobilize defenses
  Regulate body chemistry
  Control temperature

In the older child, rest means in bed. Usually, sometime before the child is two years old, there comes an illness that is the golden opportunity to teach the child that when he is ill he stays in bed. This saves endless vacillation later on.

The most fruitful means of promoting rest lies in a light or reduced diet. Nature is not mistaken when she takes away the appetite at the first sign of illness. It takes more energy to digest the food eaten in one day than one would possibly exert in physical or muscular effort in a day. Appetite is an accurate barometer of well-being but it is as irrational to try to make a child well by making him eat as it is to heal a broken leg by making him walk on it.

The medical profession owes an explanation as to why physicians so glibly prescribe aspirin for children and then are astonished to see adults eat it like popcorn. The difference can be simply stated by saying that we put a child to bed and give him aspirin while an adult takes aspirin instead of going to bed. The chief value of aspirin for children is to relieve the aches and pains that make it difficult for him to rest. Its role in reducing body temperature has been over-rated. Sedatives, nose drops, cough syrup and steam inhalations, when they do any good, do it mainly by promoting rest and ease.

When instructions are given about fluids, the word means, primarily, water. Mothers have to be reminded that juices are mainly to provide taste. The primary purpose of fluids is to promote elimination. In medicine a generation ago castor oil and epsom salts performed this function, but now it is known that urging or forcing of fluids does it better with less side effect. There is an old medical saying that there never was a constipated water-drinker. This is not the whole answer but it emphasizes a basic truth. Scant or dark urine is a warning of dehydration. Even the sweat glands are important in elimination. That it takes fluids to breathe is seldom thought about. Especially when the nose is blocked the fluid loss through the breath can exceed that excreted by the kidneys and the breath is an exceedingly important means of elimination of noxious products.

All the defense mechanisms of the body require fluids to mobilize the antibodies from their sources, to transport them and insure their ultimate function. Seventy per cent of the body weight is water. Of this 50 per cent is in the cells, 5 per cent in the blood stream. Only the 15 per cent intercellular fluid can be utilized to make up deficiencies and this is the site of the immunity response.

Body temperature can range from the eighties to 105° Fahrenheit without serious consequence but the pH of the blood must remain within a range of one point to sustain life. Chemical imbalance seldom occurs when sufficient fluids are available. That the human animal is dependent on fluids for temperature control is well known.

Now when the importance of fluids and rest is explained to a mother, she will not say, "What can I do for my child?" These fundamental symptomatic treatments rank in importance with specific therapy for more serious illnesses.

When the child is nine months of age, the use and misuse of drugs is discussed with the mother. Few households have adequate antiseptics. The purpose of antiseptics is to kill bacteria. It seems reasonable that every family with children should have available solution merthiolate for fresh cuts, tincture of mercresin (stainless) for infected lesions and, perhap, antiseptic soap.

It can be explained that antibiotics do not kill but only inhibit bacteria, as the name suggests. A homely simile that seems to carry this impression is that you or I could lick our weight in wildcats if someone would tie them down but we don't want them untied when we have just started. Thus with antibiotics it is desirable to give adequate doses, at the outset, and to continue them long enough. It is true that in adults, who have a ready immune response, a single dose of penicillin at the onset of an infection can inhibit the invasion long enough for the body to overcome the infection. But in a child the same process is like damming back a flood of water—then releasing it to deluge him before his defenses are up.

At ten months, in discussing shoes, it is pointed out that there are only three reasons for wearing shoes: appearance, warmth, and protection from the hard surfaces upon which we live. Ordinary shoes do not support either the foot or the ankle. Babies' legs, at nine months to one year, look bowed because of under-developed anterior tibial muscles which support the arch. At this age a child is constantly kicking his toes for sheer glee and in so doing duplicates exactly all the tedious exercises that physical therapists prescribe for flat feet. A rigid shoe, at this age, is a most effective inhibitor of development of the arch.

An orthopedic or corrective shoe may give support but a normal shoe is an apparatus to hold a sole on the foot. A thick sole is useful for absorbing the shock of pattering feet on hard surfaces.

At the eleventh month some of the habits of infants are considered, such as toilet training and thumb-sucking. A toilet is a comfort station, not a duty chair. A child's experience on the toilet should be a relief. He must be relaxed to get relief. Force or regimentation will not relax him. It is dangerous to set an age because there is no uniform time at which a child is ready for this relief.

Thumb-sucking is a problem that has confused and frightened many mothers. A certain amount is not abnormal and not, generally, harmful. But sometimes advice to let it alone forces inhibitions and fear upon a mother. She needs release to handle the problem as seems fitting to her. She should not be afraid either to let the baby suck or to stop him, as she wishes. The concept that he must suck for some inner security or satisfaction has, at times, been over-emphasized—so much so that the mother may actually feel duty bound to encourage him to seek this perverted sense of satisfaction. Not interfering with the child who wants to suck does not mean that he must be kept sucking for fear he won't get enough.

At the end of the first year is the opportune time to discuss one of the most important parts of child care—accidents. Accidents cause more deaths of children than all infectious diseases combined. As the physician completes the immunization procedures by giving the first booster and applying the tuberculin test, he can call attention to some of the most common causes of accidents: Hot stoves, scalding liquids, worn-out fuses and electric cords, cigarettes and fires, open pools, falling out of car, backing car over child, and unlocked cupboards.

When a child is one year of age he begins to get into things, and by the time he is two years old there is nothing in the house that he cannot reach. Put things out of reach? There is no "out of reach" for the aggressive child of two years. If some children are to be permitted to poison themselves, why select only the alert and aggressive ones? A locked cupboard in so convenient a place that it can be used for all dangerous drugs makes a splendid gift for a child's first birthday. (This advice for a locked cupboard has been so effective that, in the author's practice, the need for stomach pumping has decreased from a former incidence of ten to twenty a year, to one in two years.)

All the counselling of parents outlined here takes some little time but it also saves physicians a great deal of time where they can most appreciate it—in long, irrelevant telephone calls. The greatest dividend of all is the feeling of satisfaction from rendering a good and useful service and the appreciation of satisfied parents.

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1. Bakwin, H.: Lecture presented at the spring meeting of Academy of Pediatrics, New York City.

Paravaginal Hematomas

Their Recognition and Management Postpartum

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• *Paravaginal hematoma is an unavoidable obstetrical complication, usually due to the traction and rupture of paravaginal veins by the oncoming presenting part. Pain, swelling, ecchymosis and urinary retention are the usual symptoms if the hematoma is located below the levator plate, while supralevator hematomas give no external manifestations.*

Early diagnosis could be made more often if digital examination of the pelvis were done routinely after the third stage of labor and before dismissal of the patient from the hospital, and done more frequently in postpartum patients with pelvic complaints.

Active surgical intervention is advocated to avert needless destruction of tissue, prolonged morbidity, and delayed recovery.

HEMORRHAGE into the paravaginal soft tissue with subsequent hematoma formation is a serious and not uncommon obstetrical complication. It is the most frequent cause of covert postpartum hemorrhage and a formidable contributor to puerperal morbidity with delayed convalescence. Subperitoneal hematomas not associated with lesions of the uterus (so well considered by Williams[2]), and broad ligament hematomas from rupture of the uterus will not be included in this report, which is an inquiry into paravaginal hematomas which appear to develop from the passage of the oncoming presenting part through the vaginal canal.

ANATOMY OF THE PARAVAGINAL SPACES

The paravaginal space is that division of the pelvic connective tissue which extends from the vagina to the obturator fascia. Since it is contiguous with the paravesical, parametrial and pararectal spaces, blood (or exudate) arising in one connective tissue space may readily spread to any other. (The most complete anatomic and pathologic descriptions of these spaces may be found in the monumental work of Freund.[1])

A vaginal venous plexus surrounds the vagina, along the lateral border of which it is most prominent, because of the condensation of the vesico- and rectovaginal fasciae. One or more vaginal veins issue from the upper end of the vagina bilaterally, terminating in the hypogastric veins. The vaginal venous plexus intercommunicates with the inferior and middle hemorrhoidal veins as well as with the inferior vesical plexus, and this entire venous pool becomes tremendously engorged during the latter months of pregnancy.

The levatores ani muscles divide the paravaginal space into an upper or supralevator fossa and a lower or infralevator fossa. A paravaginal hematoma is typically confined to the upper or lower compartment, although massive hemorrhage can break through the levator barrier. Continued bleeding into one of these closed spaces causes "glacier-like movement" of the integument upon the subjacent tissue.

Hemorrhage into an infralevator space is characterized by massive swelling and ecchymosis of the labia, perineum and lower vagina on the affected side (Figure 1), and suggillation may extend over the buttock. Anorectal tenesmus may result from extension into the ischiorectal fossa, while urinary retention may succeed spread ventrally into the paravesical space. Supralevator hematoma, on the contrary, is not visible externally, and can only be diagnosed by digital examination of the pelvis. It can be felt as an insensitive rubbery mass pushing in the vaginal wall and more or less occluding the canal (Figure 2).

CLINICAL MATERIAL

In a series of 930 consecutive vaginal deliveries observed by the author, there were seven paravaginal hematomas, an incidence of one in 135 parturitions. The youngest patient was 20 years old, the oldest 39, and the average age was 32. Five women were primiparas and two were secundiparas. All pregnancies were uneventful, labor was not unusual, and all deliveries were by low forceps and episiotomy. Anesthesia was by spinal infusion in four cases, by continuous caudal in two, and by gas-

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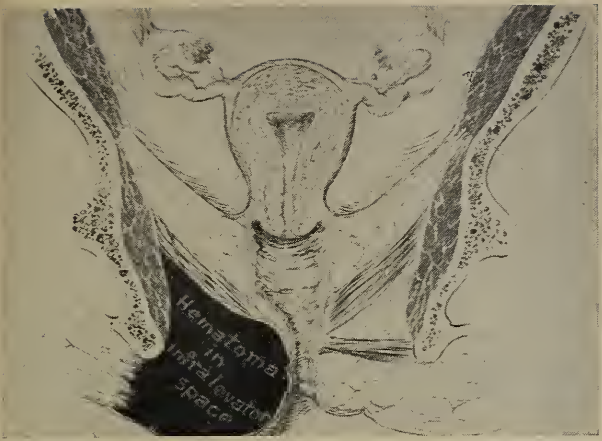

Figure 1.—Frontal section of pelvis to show hematoma in infralevator space. Note massive swelling of vulva, perineum and distal vagina on affected side.

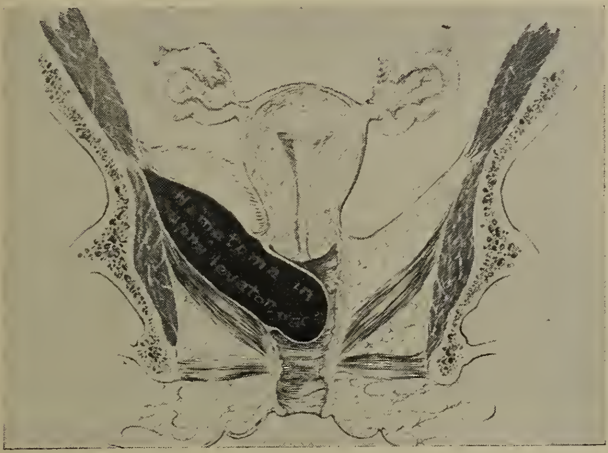

Figure 2.—Frontal section of pelvis to show hematoma in supralevator space. Note the medial displacement of the lateral vaginal wall almost to the opposite side, and the upward "tenting" of the pelvic peritoneum.

oxygen-ether in one. The infants were normal. The largest weighed 8 pounds (3,628 gm.).

Of the seven hematomas, four (including one in the perineum) were infralevator and three were supralevator in location. There was no maternal mortality.

EPISIOTOMY SITE AND LOCATION OF HEMATOMA

Table 1 summarizes the location of the hematomas as far as the site of episiotomy is concerned. It will be noted that in only one of the patients (Case 2) did the hematoma develop in proximity to the episiotomy wound. In the six other patients the location of the hematoma was quite distant from the site of episiotomy. It may be concluded that, in most instances at least, the formation of a paravaginal hematoma is not a complication of episiotomy.

CLINICAL MANIFESTATIONS

The salient clinical manifestations observed are summarized in Table 2. It will be noted that a mass or swelling developed in every case, and agonizing anogenital pain with suggillation of the vulva, perineum and buttock occurred in three patients. Two women went into moderately profound shock as soon as evacuation of the hematoma was undertaken, and emergency transfusion was necessary in both instances. Three women with sublevator hematomas had high fever for several days, that is, until surgical drainage was carried out. Stubborn urinary retention was an outstanding symptom in four patients, including one with a supralevator hematoma, until evacuation was achieved.

TABLE 1.—*Episiotomy site and location of hematoma*

Case	Episiotomy	Hematoma
1	Left medio-lat.	Right infralevator space
2	Median	Perineum
3	Median	Right infralevator space
4	Median	Right supralevator space
5	Median	Left supralevator space
6	Right medio-lat.	Left infralevator space
7	Median	Right supralevator space

TABLE 2.—*Clinical manifestations in seven cases of paravaginal hematoma*

	No. of Patients and Position of Lesion		
Manifestation	Supra-levator	Infra-levator	Total
Mass or swelling	3	4	7
Pain	..	3	3
Suggillation	..	3	3
Shock	1	1	2
Fever, septic	..	3	3
Urinary retention	1	3	4

TIME OF DIAGNOSIS

Paravaginal hematoma was diagnosed in three of the seven cases in the delivery room and appropriate treatment was started without delay. Secondary bleeding in an infected median episiotomy wound rather suddenly caused a large hematoma on the fourth postpartum day in one patient. Despite continued pain, difficulty with micturition and unexplained fever, the diagnosis of infralevator hematoma was not made in two patients until ecchymosis of the buttock developed on the eleventh postpartum day in one case and the sixteenth in the other. In another case a huge supralevator hematoma which practically closed the upper vagina was not discovered until routine examination 42 days postpartum, and the patient was quite asymptomatic, her only postpartum difficulty having been urinary retention with residual urine for the first five days.

Earlier diagnosis should result from a wider knowledge of the frequency and manifestations of paravaginal hematomas following delivery. It is recommended that digital examination of the pelvis (rectally or vaginally) be done (1) before the patient leaves the delivery room, (2) whenever unexplained anogenital pain, ecchymosis, fever or uri-

TABLE 3.—*Summary of treatment in seven cases of paravaginal hematoma*

	Cases
Conservative treatment (misdiagnosis)	1
Surgical treatment	6
Evacuation and pack	3
Evacuation and suture	1
Evacuation, suture and pack	1
Evacuation, suture and secondary perineorrhaphy	1

nary retention develops postpartum, and (3) before dismissal from hospital.

TREATMENT

Early diagnosis and active therapy are necessary if needless destruction of tissue, prolonged morbidity and delayed convalescence are to be avoided. The obstetrical attendant must be alert to the fact that paravaginal hematoma may occur after the simplest delivery, and it usually has no physical or causal connection with the episiotomy wound.

The summary of treatment used is presented in Table 3. Active treatment (which always included surgical evacuation) was carried out in six patients, but withheld in one instance because a supralevator hematoma was mistaken for a Gartner's duct cyst. This undrained lesion took four months for resorption, during which time dyspareunia persisted. Transfusions were used to combat shock and to correct puerperal anemia secondary to blood loss and infection. All patients surgically treated received antibiotics postoperatively.

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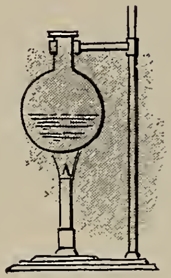
REFERENCES

1. Freund, R.: Die Krankheiten des Beckenbindegewebes, in J. Veit's Handbuch der Gynakologie, published by J. F. Bergmann, Munich, 1933, pp. 466-717.

2. Williams, J. W.: Subperitoneal hematoma following labor not associated with lesions of the uterus, Trans. Am. Gyn. Soc., 29:186-207, 1904.



Air Pollution and Its Effect on Health

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• An experimental study of the effect of air pollutants on health can be undertaken only subsequent to the creation of synthetically polluted atmosphere in exposure chambers as a readily available and easily controllable laboratory tool. The many and varied pollutants must be studied singly and in combination so as to reproduce any synergistic or antagonistic effects that may exist. A study of pollutant substances at their source is wholly inadequate in view of the pronounced photo-chemical activity in the atmosphere. The products of this activity may well be the significant ones insofar as morbid effects are concerned.

In the acute and subacute biological studies, both in vitro and in vivo systems are being used with the experimental progression being from the simple to the complex.

A PRESENTATION of the effects of air pollutants on health may be compared with a discussion of the effects of microorganisms on health; the agents concerned with both are apparently limitless. The many and varied atmospheric pollutants, their ubiquity, their ever-changing status in a physically and chemically dynamic atmosphere, and the variations in human response unite to make a study of their biological effects extremely difficult. Clinically, this is so even during transient disaster periods when pollutant concentrations are high, the emission sources are limited, and epidemiological surveys can be undertaken. Studies initiated at a time when epidemiologic efforts have proven valueless and when pollutant levels are below the threshold for the production of immediate clinical symptoms would appear to be well-nigh impossible of success. Experimental investigations appear equally difficult. A fundamental requirement for a research program of this type is the exact duplication of atmospheric pollutants in a readily available and easily controllable laboratory tool form. Only within the recent past have studies in this direction been successful. On both the clinical and the experimental levels, physiologic and pathologic studies fall far short of satisfaction because of the nonspecific and quite subtle changes that occur in response to pollutant exposure.

Historically, clamor and concern over air pollution have followed episodes in which geographic, meteorologic and industrial factors have united to produce transient intervals of high pollutant concentration characterized by severe symptoms affecting a significant percentage of the exposed population. Deaths have occurred in a smaller but still significant number of exposed residents.

Six acute episodes have now been recorded, two in the Meuse Valley, Belgium, in 1915 and 1930, respectively; two in Donora in the years 1945 and 1948; one in Poza Rica, Mexico, in 1950; and, the most recent, the great London fog of early December 1952. Sufficient data are available to make at least a partial critical study of four of these episodes: the 1930 Meuse Valley incident,[15] the second Donora episode of 1948,[1, 18] the Poza Rica investigation of 1950[17] and the London fog of 1952.[6, 7] It is of considerable interest, although somewhat disheartening, that the agents responsible for the morbidity and mortality were positively identified in only one of the four—the Poza Rica incident, which was the most limited and restricted of all. In Poza Rica the pollutant was hydrogen sulphide, an asphyxiating gas; the source was a recycling and sulphur-recovery plant; and concentrations of the pollutant were well above the maximum allowable concentration (MAC) of 20 parts per million (ppm). In none of the other incidents could a single pollutant be inculpated as either the only or even a critical toxic agent.

High on the list of suspected agents in the Donora and London episodes were sulphur-bearing compounds expressed as measured sulphur dioxide. Since the MAC of sulphur dioxide is 10 ppm, it is of interest to observe that the concentration of sulphur dioxide in Donora measured at the time the fog was lifting was .5 ppm,[22] and in London on December 7 and 8, 1952, the concentrations measured 1.399 and 1.339 ppm, respectively.[7] In the Meuse Valley episode hydrogen fluoride[16] was suspected as the principal pollutant; concentrations of 0.5 ppm were calculated (not measured) whereas the accepted MAC is 3 ppm. Sulphur dioxide, a subsequent entry into the field of suspicion in the Meuse Valley episode, was estimated to be present up to 8 ppm

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and concentrations of up to 40 ppm were considered as possibilities. There are, of course, no data available to substantiate these latter estimates. It should be quite apparent that since episodes characterized by time limits, restricted geographic locations, specific meteorologic circumstances, and abnormally high pollution concentrations have proven to be beyond exact analytical pinpointing both as to the toxic agents and their morbid effect, similar studies on subtoxicological levels of pollutants must be approached with great caution.

CLASSIFICATION

Pollutants created by man have united with natural geographic and meteorological conditions to produce a polluted atmospheric environment in Southern California of sufficient frequency, duration, and intensity that certain measurable effects on health may properly be anticipated. These effects are in all probability the result of the summation of pollutant activity rather than the direct response to a single pollutant substance. In planning a study of these effects the following questions must be considered. One, what is the physical state of the pollutant material: gaseous, gaseous-particulate (aerosol), solid-particulate (soot), or combinations of these? Two, what is the chemical nature of the pollutants at the time of emission and what new compounds form subsequent to the photochemical activity of the atmosphere? Three, is the health effect related to the physical and chemical nature of the pollutant or do allied factors enter, including, as studied by others, possible increased host susceptibility to upper and lower respiratory tract disease?[2, 24] Four, is the host response specific in terms of specific pollutants? Five, do various pollutants act synergistically or in combination to produce a morbid response since even in disaster the MAC of the toxic substances measured has with one exception never been reached? Six, is the effect solely one of addition of toxic substances to the atmosphere or is there a secondary factor such as interference with solarization, an item related to skin tumor morbidity and antirachitic activity?[3] Finally, is there a psychic effect, and if so, how can it be measured?

The host response to air pollution may arbitrarily be divided into three clinical types: the acute, subacute and chronic. During periods of abnormally high pollutant concentration, immediate clinical effects may be noted, ranging from eye and upper respiratory tract irritation through respiratory embarrassment with dyspnea and chest pain to extreme morbidity with ultimate death. This *entire* spectrum of symptomatology is usually manifest in most of the exposed population group, with the severity of symptoms tending to increase in proportion to the prior cardiorespiratory disability of the exposed persons. The mass effects are transitory and disappear with a decrease in pollutant concentration to tolerated levels. It is of significance that in the Donora and London episodes the most severe illnesses and the greatest number of fatalities occurred in the older age groups and primarily among persons with heart disease, bronchitis, emphysema, bronchial asthma and pulmonary fibrosis. The milder symptoms, usually confined to exposed mucous membrane surfaces of the eyes and upper and lower respiratory tract, are as a rule limited to the healthy young and adult population groups. Retrospective studies following disaster periods indicate that a great many pollutant substances, active in an as yet undetermined cooperative manner, unite to produce the morbid effects described. Studies now going on indicate that specific pollutant host effects are transitory, especially in persons free of preexisting disease.

Subacute effects may be arbitrarily divided on the basis of the individual host under study. In the disease-free members of the exposed population, the subacute effects are characterized by sensory and cardiorespiratory symptoms that are more inconvenient than they are disabling. Lacrimation, rhinorrhea, cough, and occasional headache are all on the minimal clinical level and disappear with the disappearance of the abnormal pollutant concentration. The second type of response is that seen in exposed persons with antecedent cardiorespiratory disease. It would be extremely hazardous not to ascribe some progressive deleterious effect on an already impaired cardiorespiratory system by pollutants present most of the time. Even greater potential danger may threaten persons with marginally or critically decompensated cardiorespiratory systems, for they are conceivably capable of responding to very low concentrations. It is surely this group which is the primary source of deaths during extremely high concentration periods.

Cases of chronic or extremely delayed effect are even more of an arbitrary group than the former two. In effect, all people, without exception, may be responding on this level to the ever-present albeit ever-changing concentrations of atmospheric pollutants. In urban centers the exposure is for the entire life span, and it is this latter observation that must be considered in an assessment of the role of air pollution as one possible etiologic agent responsible for the increasing frequency of lung cancer. Certain epidemiologic observations direct suspicion toward such a relationship: first, the successful demonstration of known cancer-producing substances in the atmosphere and vehicular sources of pollution;[13, 14, 23] second, the experimental production of skin cancer in mice with air-extracted pollutants;[13] third, the reported greater incidence of pulmonary cancer in urban than in rural residents;[12, 21] fourth, the different rates of acceleration of incidence in various localities;[10] fifth, the variations in incidence in the two sexes from country to country;[11] and sixth, and perhaps most significant, is the presence of substances which, although in themselves of questionable carcinogenicity, are considered as providing a mechanism for the biological activity of the known and suspected carcinogens in the atmosphere.[13]

EXPERIMENTAL

The Los Angeles atmosphere, polluted primarily by a hydrocarbon, is characterized chiefly by its pronounced oxidizing capacity.[8] At present the accepted method of measuring pollutant concentration utilizes this chemical observation. Both chemical and biological systems are being used. The former measures total oxidants in the air, and the latter depends on the demonstration of specific morphological changes in certain susceptible botanical species.[4, 9] It seemed proper that in an experimental program to determine the biological effects of atmospheric pollutants in Los Angeles County the oxidation effect should be the first to be studied, particularly in light of the fact that eye irritants have been reported to act on chemical groups common to a number of significant enzymes and enzyme systems. The sulfhydryl group has been demonstrated as the site of the oxidant effect.[5]

The investigational approaches undertaken included (1) protein and enzyme studies to assess pollutant effects on plasma proteins and on enzyme and enzyme systems; (2) respiratory physiology studies utilizing pulmonary function measurements and blood gas analyses; (3) amino acid studies to indicate protein structure changes through the knowledge of the fate of amino acids; (4) hemoglobin studies to determine pollutant effects on oxyhemoglobin and nitric oxide hemoglobin, methemoglobin and sulfhemoglobin formation; (5) pathologic studies to demonstrate morphologic changes in the respiratory tract and other organ systems following pollution exposure and; (6) electrolyte studies to measure changes in blood concentration and electrolyte excretion.

Artificial smog used in this study was prepared according to the method of Shepherd[19] of the National Bureau of Standards and Haagen-Smit of the California Institute of Technology. In the course of analyzing the artificial smog, it became evident that it varied in a manner similar to that of natural smog which changes with the time of day, the geographic location of sample collection, and varying meteorologic conditions. It soon became apparent that the first step would be to carry out a series of repeated determinations so as to observe the entire life cycle of smog from the pollutant source through its buildup and finally to its destruction.

An atmosphere with 4 ppm total oxidant was arbitrarily chosen as the initial exposure concentration. This amount represented ten times the total oxidant, 0.4 ppm, measured in downtown Los Angeles at noon on a smoggy day. Unless otherwise stated, the 4 ppm concentration was used for all studies in this discussion. In instances where neither in vivo nor in vitro changes could be demonstrated at the 4 ppm level, the naturally occurring oxidant level of 0.4 ppm was increased approximately ten thousandfold to 3,000 ppm of oxidant in the atmosphere used for testing. Throughout the entire study it was repeatedly noted that additional tests (which are now being done) would be necessary to further establish the equivalence of natural and synthetic smog.

The biologic studies were planned on the basis of increasing complexity of test systems and all the studies were in the chemical, biochemical, physiologic and pathologic disciplines. The division is one of convenience only, as all studies overlapped. Chemical studies were initially performed for the double purpose of first, determination of smog-sensitive compounds and, second, establishment of the need for air-conditioned laboratories so that the natural atmosphere would introduce no artifact into the data.

Twenty-one amino acids were exposed to 4 ppm of oxidant for 17 hours to measure the changes that occurred. Eight of them—histidine, methionine, tyrosine, tryptophane, lysine, leucune, proline, cystein and glutathione—were found altered. The reaction products were separated from the parent amino acids by filter paper chromatography and detected by the ninhydrin color reaction and, when indicated, by absorption spectroscopy. These studies are as yet incomplete, and the reaction products have not been identified. These experiments are also being undertaken quantitatively.

Investigation of several of the vitamins produced variable results. Vitamin C was not tested, as its instability is well known. Thiamin and pyridoxine were altered by exposure to 4 ppm of smog oxidants for three minutes. Folic acid, carotene and alphatocopherol were altered only when exposed to the 3,000 ppm oxidant environment, at which concentration riboflavin and niacin were still unaltered. Cholesterol was oxidized following exposure to the 4 ppm smog for three minutes.

Among the nonprotein hormones it was found that the androgenic, progestational and adrenocortical hormones were destroyed following three minutes of exposure to smog with 4 ppm oxidant. The estrogenic hormones alone withstood all concentrations of smog.

Xanthine and uracil in the purine and pyrimidine group were tested, and alteration could be demonstrated only by exposure to high concentration of

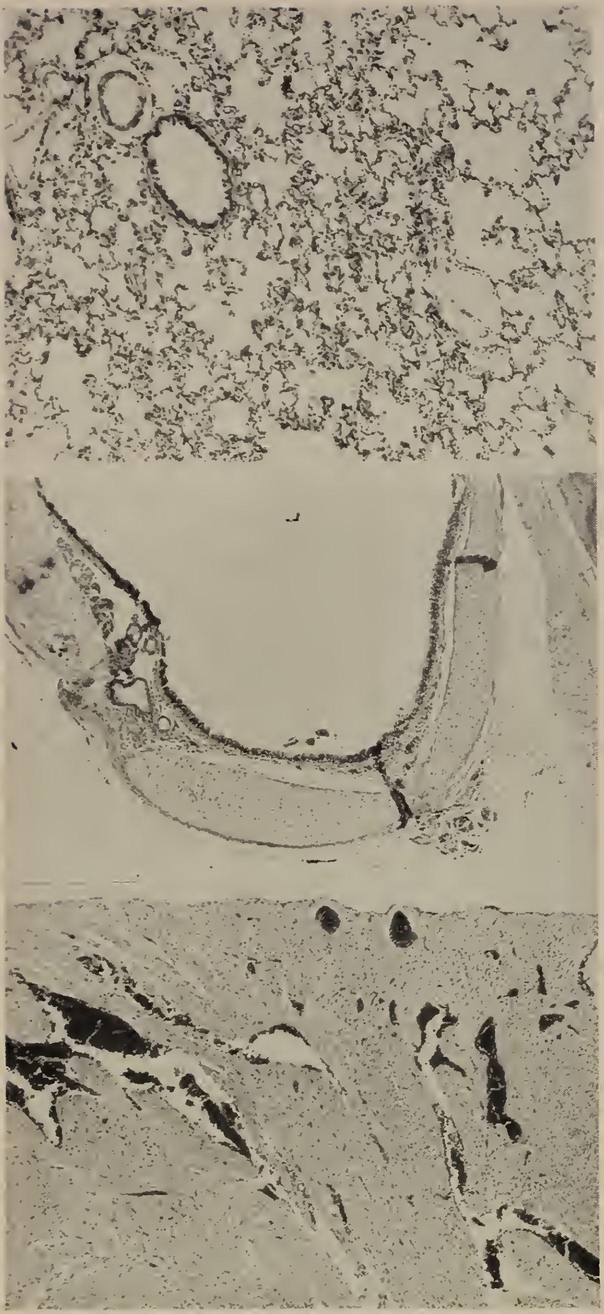

Figure 1.—*Upper:* Lung essentially normal. *Middle:* Trachea shows mild inflammatory response. *Lower:* Myocardium shows intense vascular congestion with focal areas of hemorrhage. (Magnifications × 30.)

3,000 ppm oxidant. In the porphyrin group, cytochrome-C and hemoglobin were significantly altered —30 per cent destruction of the former and 40 per cent methemoglobin formation in the latter. These observations were immediately checked in an in vivo system. Wistar white rats were exposed to smog of 4 ppm oxidant concentration for from 10 to 180 minutes. Hemoglobin oxidation to methemoglobin varied from 0.5 per cent to 10 per cent. In this group of experiments oxides of nitrogen were excluded from the smog mixture so that the oxidant effect could be determined independent of the known nitrogen oxides effect on hemoglobin. Increasing the smog concentration to 3,000 ppm oxidant killed the rats in less than ten minutes. Under these conditions up to 25 per cent methemoglobin was found and the plasma proteins gave altered filter paper electrophoretic patterns with an increase in the gamma globulin fraction.

Enzymatic studies have thus far been limited to the observations of succinic dehydrogenase activity in the liver of normal rats in a medium containing smog oxidants, and in livers of intact animals killed by smog. Data from these studies are as yet incomplete.

Physiological studies on cardiorespiratory activity, using large animal species with and without induced pulmonary disability, have not extended beyond the stage of control determinations of blood gases and the residual content of expired air.

Pathological changes demonstrable by standard histopathological methods proved to be nonspecific following exposure of rats and mice to tenfold the concentration of natural smog. Following a build-up of lethal concentrations to 3,000 ppm oxidant, morphologic findings of respiratory irritation associated with changes of nonspecific asphyxia were noted. Lacrimation and rhinorrhea developed in rats and mice during the build-up of lethal concentrations, as anticipated by the findings of Haagen-Smit. Pollutants were studied singly as well as in atmospheric-occurring combinations. Figure 1 shows the lung, trachea and myocardium of a rat killed by gasoline vapors in an inhalation chamber. Only the myocardium showed changes—pronounced vascular congestion characteristic of asphyxia alone.

The effects of nitrogen oxides on the lung—pronounced vascular congestion, alveolar congestion, hemorrhage and protein exudation into the bronchi, are shown in Figure 2. In Figure 3 are shown changes following exposure to smog with a concentration of 3,000 ppm oxidant. The trachea shows marked inflammation, edema, cellular infiltration and epithelial separation. The lung shows the most intense alveolar and vascular congestion with numerous focal hemorrhages.

To date, acute morphological changes have been significant only in those animals exposed to ten thousand times the concentration of pollutants that exists in Los Angeles atmosphere. Biochemical and chemical changes, however, have been demonstrated following short-term exposure to only tenfold the Los Angeles smog concentration. As yet, a critical appraisal of the acute and subacute data is impossible, as so many of the systems studied have been studied under circumstances that, to say the least, are unphysiologic. Further studies are indicated for an understanding of the mechanisms whereby the

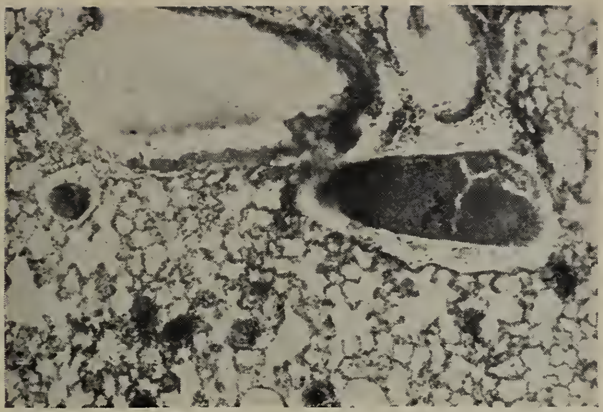

Figure 2.—Lung shows intense vascular congestion. The alveolar septa are engorged, and focal areas of alveolar hemorrhage can be noted. (Magnification × 65.)

TABLE 1.—*Atmospheric samples collected in Los Angeles*

Compound	Amount in mg. Total	Amount in mg. Per 1,000,000 Cubic Feet
Sample 1:		
Pyrene	0.28	0.14
3, 4-benzpyrene	1.84	0.92
1, 12-benzperylene	1.45	1.00
Sample 2:		
Pyrene	0.9	0.32
3, 4-benzpyrene	2.35	0.84
1, 12-benzperylene	0.72	0.35

Sample 1: August 1 to October 15, 1952—42 days actual sampling.

Sample 2: October 21, 1952, to June 1, 1953—59 days actual sampling.

many observed clinical effects are brought about. These include eye irritation, upper respiratory tract and lower respiratory tract irritation, and interference with normal respiratory functions in persons with decreased cardiorespiratory reserve.

The experimental approach to the investigation of the chronic or carcinogenic effect of atmospheric pollutants presents all the difficulties mentioned thus far, plus two critical additional ones. First, there is the necessity for maintaining the animal species for a long time; second, extrapolation of data on carcinogenesis in animals to imply kindred effect in humans is unwarranted.

Initial studies consisted of air sampling for the collection of material for chemical analysis and biological use. In the first series of experiments the collected material was used for skin painting on C57 black mice.

The air sampling revealed the presence of known carcinogenic hydrocarbons in the Los Angeles atmosphere (Table 1).

In addition to the aromatic polycyclic hydrocarbons demonstrated in the atmosphere, the presence of aliphatic hydrocarbons and their oxidation products is offered as being of significance in the pathogenesis of lung cancer in addition to their role as nonspecific irritants. These highly polar substances are important, first, by providing an eluent for the separation of adsorbed carcinogenic hydrocarbon from soot particles in the air and, second, by the formation of various chemical compounds from unsaturated hydrocarbons, including (theoretically) the formation of diepoxides, which have carcino-

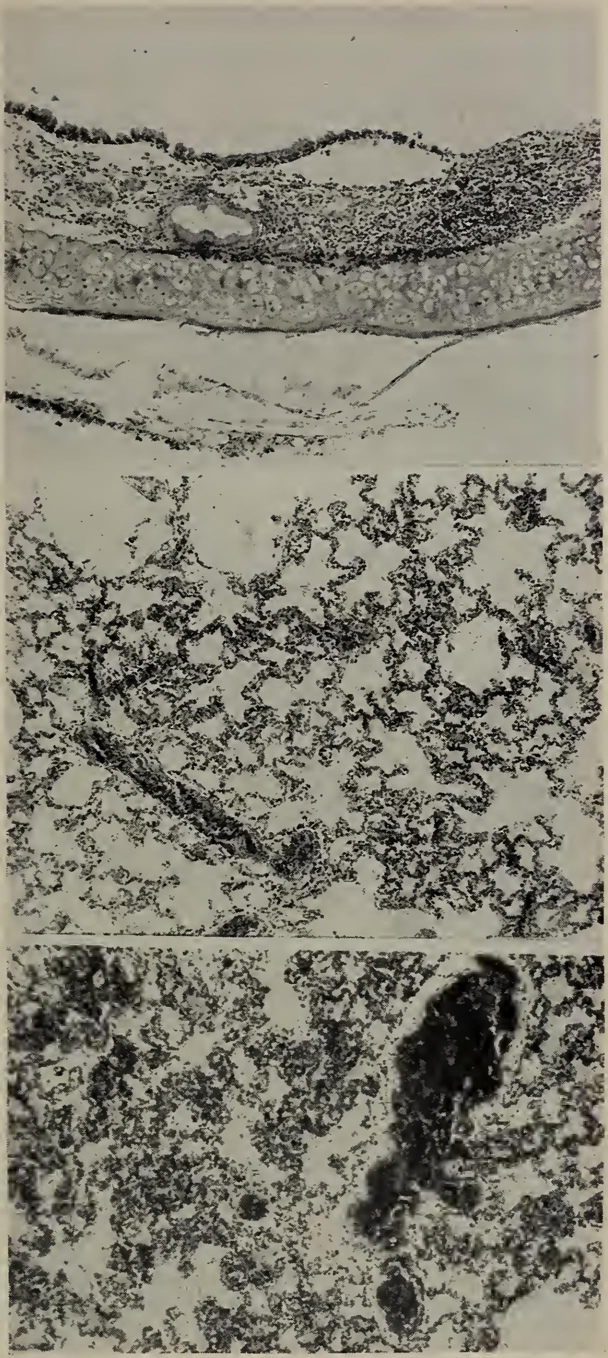

Figure 3.—*Upper:* Subepithelial inflammatory cell infiltration with edema with epithelial separation from underlying cartilage. *Middle:* Diffuse pulmonary congestion with alveolar hemorrhage and inflammatory exudation. *Lower:* Another section from lung showing pulmonary edema. (Magnifications × 65.)

genic properties, according to a report on experimental work. Carcinogenic studies using these compounds are in progress.

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REFERENCES

1. Ashe, W. F.: Acute effects of air pollution in Donora, Pennsylvania. Air Pollution, McGraw-Hill Co., Inc., 1952, pp. 455-461.

2. Baetjer, A. M.: Chronic exposures to air pollutants and acute infectious respiratory diseases, Arch. Ind. Hyg. & Occup. Med., 2:400-406, Oct. 1950.

3. Blum, H. F.: Effect of loss of sunlight on human health. Air Pollution, McGraw-Hill Co., Inc., 1952, pp. 499-502.

4. Bobrov, R. A.: The anatomical effects of air pollution on plants, Proc. Sec. Nat. Air Pol. Symp., 2:129-133, May 5 and 6, 1952.

5. Dixon, M.: Reactions of lachrymators with enzymes and proteins, Biochem. Soc. Symp., 2:39, 1948.

6. Drinker, P.: Air pollution and the London fog of December 1952, Arch. Ind. Hyg. & Occup. Med., 9:247-248, March 1954.

7. Foreign Letters: The great London fog, J.A.M.A., 151: 1367, April 11, 1953.

8. Haagen-Smit, A. J.: Chemistry and physiology of Los Angeles smog, Ind. & Eng. Chem., 44:1342-1346, June 1952.

9. Haagen-Smit, A. J., Darley, E. F., Zaitlin, M., Hull, H., and Noble, W.: Investigation on injury to plants from air pollution in the Los Angeles area, Plant Physiol., 27:18-34, Jan. 1952.

10. Hueper, W. C.: Air pollution and cancer of the lung, Rhode Island M. J., 36:24-52, 1953.

11. Hueper, W. C.: Environmental cancer hazards caused by industrial air pollution, Arch. Ind. Hyg. & Occup. Med., 2:325-328, 1950.

12. Kennaway, E. L.: Data relating to cancer in publications of the General Register Office, Brit. J. Cancer, 4:158-172, 1950.

13. Kotin, P., Falk, H. L., Mader, P., and Thomas, M.: Aromatic hydrocarbons. I. Presence in the Los Angeles atmosphere and the carcinogenicity of atmospheric extracts, Arch. Int. Hyg. & Occup. Med., 9:153-163, Feb. 1954.

14. Kotin, P., Falk, H. L., and Thomas, M.: Aromatic hydrocarbons. II. Presence in the particulate phase of gasoline-engine exhausts and the carcinogenicity of exhaust extracts, Arch. Ind. Hyg. & Occup. Med., 9:164-177, Feb. 1954.

15. Mage, J., et Batta, G.: Résultats de l'expertise judiciaire sur la cause des accidents survenue dans la vallée de la Meuse pendant les brouillards de décembre 1930, Chimie et Ind., 27:961, 1932.

16. Mage, J., et Batta, G.: Le rôle de l'acide fluorohydrique dans la nocivité du brouillard de la Meuse en 1930, Chimie et Ind., 30:787, 1933.

17. McCabe, L. C., and Clayton, G. D.: Air pollution by hydrogen sulphide in Poza Rica, Mexico, Arch. Ind. Hyg. & Occup. Med., 6:199-213, Sept. 1952.

18. Shrenk, H. H., Heimann, H., Clayton, G. D., Gafafer, W. M., Wexler, H., et al.: Air pollution in Donora, Pa., Pub. Health Bull., No. 306. Washington, D. C.: Division of Industrial Hygiene, Public Health Service, 1949.

19. Shepherd, M., Rock, S. M., Howard, R., and Stormes, J.: Isolation, identification, and estimation of gaseous pollutants of air, Anal. Chem., 23:1431-1440, 1951.

20. Steiner, P. E., Butt, E. M., and Edmondson, H. A.: Pulmonary carcinoma revealed at necropsy with reference to increasing incidence in the Los Angeles County Hospital, J. Nat. Cancer Inst., 4:497-510, 1950.

21. Stocks, P.: Endemiology of cancer of the lung in England and Wales, Brit. J. Cancer, 6:99-111, 1952.

22. Stokinger, H. E.: Toxicologic perspective in planning air pollution studies, Am. J. Pub. Health, 43:742-751, June 1953.

23. Waller, R. E.: The benzpyrene content of town air, Brit. J. Cancer, 6:8-21, 1952.

24. Winternitz, M. C.: Chronic lesions of the respiratory tract, initiated by inhalation of irritant gases, J.A.M.A., 73: 689, Aug. 1919. Biological aspects of air pollution, an annotated bibliography, U. S. Pub. Health Service, April 1950.

Pathology of Cat-Scratch Disease

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• *A pathologic and histogenetic study of material obtained from ten cases of cat-scratch disease was carried out. The earliest lesion was of ten days' duration and the oldest of 35 days' duration. The first changes in lymph nodes consisted of proliferation of epithelioid cells followed by exudation of leukocytes in their centers and subsequent necrosis of the exudate and epithelioid cells. Proliferative changes leading to formation of epithelioid cell tubercles were seen in some cases. Homogenization of necrotic centers brought about the formation of caseous tubercles similar to those seen in tuberculosis, syphilis, lymphogranuloma venereum and tularemia. Differentiation and the final diagnosis of cat-scratch disease rests upon correlation of histopathologic observations, clinical studies and specific skin tests.*

LEE FOSHAY[12] in 1932 was first to recognize a disease entity characterized by a primary skin lesion and regional lymph node enlargement following the scratch of a cat. His observations were not published. In a communication in 1952 he said that in 1945 Rose prepared an antigen from a diseased lymph node of a person who had this disease.[13] Later this antigen was used by Foshay as testing material on his own case. In 1950 Debre[8] published a report on this disease in France. Flores[11] cited the work of Petzetakis of Greece who in 1935 reported on the clinical and anatomical characteristics of this disease; and since that work antedated the publication of Debre, Flores called the entity *Petzetakis disease.* The first report in this country was that of Greer,[16] who in 1951 described a case in a young man. Positive skin reactions were obtained with an antigen supplied by Foshay. Since then many reports have appeared in this country (summarized in 1951, 1952 and 1954 by Daniels and MacMurray[5, 6, 7]) and in France, South Africa, Canada, Australia, England, Switzerland and Germany. In California several cases have been reported in scattered parts of the state (Cuttle,[3] Epstein,[10] Frank and Harder,[14] Gifford[15] and Todd[25]).

The clinical epidemiologic and etiologic features are well covered in the monographs of Daniels and MacMurray,[5, 6, 7] Mollaret and associates,[19, 20, 21] and Cuttle.[3] The disease is self limited, characterized by a primary skin lesion at the site of a scratch in most instances attributed to a cat, followed by swelling of regional lymph nodes after an interval of four days to a month. A fever of moderate degree may develop with malaise and loss of appetite. The nodes are tender and the skin may be reddened. The degree of enlargement varies, the nodes at times reaching 6 to 8 cm. in diameter. One or more regional nodes may be involved. Suppuration and sinus formation may occur although in milder forms the nodes may slowly involute without breaking down. The enlargement may persist for many months. A history of cat-scratch is obtained in the majority of cases. Dog bite, thorn scratch and rabbit bite have been reported as presumably the source of infection. In a small proportion of cases there is no history of skin injury. Complications are rare. Subcutaneous lesions suggestive of erythema nodosum have been described.[21, 24] Cases in which Parinaud's oculoglandular syndrome occurred also have been reported.[2, 9] Mild encephalitis was reported by Stevens.[24] Blood findings are not diagnostic.

The diagnosis of cat-scratch disease is based on the history, clinical course and laboratory tests. Exclusion tests for infectious mononucleosis, brucellosis, tularemia, tuberculosis and lymphogranuloma venereum should be done in all cases. A complement fixation test using lygranum as the antigen has been utilized by Mollaret and his associates[22] with positive reactions, indicating the close relation of this disease and lymphogranuloma venereum. By far the most important test available at present is a skin test using a 1:5 saline solution dilution of heat-treated exudate obtained from suppurative lymph nodes of known cases. This antigen, although crude, appears highly specific. Daeschner[4] emphasized the specificity of this antigen and the absence of reaction in nomal controls. This was confirmed by Bettley and Fairburn.[1] The skin reaction may remain positive for many years after recovery.

The cause of the disease is probably a virus, as yet not isolated, closely related to the psittacosis-lymphogranuloma venereum group. Mollaret and co-workers[22] were able to transmit the disease to monkeys but failed to grow the virus in tissue culture or transmit the disease to other animals. These investigators also described the presence of intra-

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TABLE 1.—*Clinical data on ten cases of cat-scratch disease*

Case	Sex and Age	History of Cat-Scratch	Primary Lesion	Site of Lymph Node Swelling	Duration of Swelling	Fever
1.	Male, 6 yrs.	Right hand	At site of scratch	Rt. axilla	35 days	None
2.	Female, 3½ yrs.	Numerous cat scratches	None	Rt. groin	30 days	Max. 102° F.
3.	Female, 53 yrs.	Numerous over arm	Right index finger	Rt. axilla	21 days	None
4.	Male, 60 yrs.	Repeated	Right hand	Rt. axilla	12 days	None
5.	Male, 35 yrs.	Numerous—both arms	Forefinger right hand	Lft. axilla	35 days	None
6.	Female, 42 yrs.	Many scratches	Left thumb	Sup. cubital nodes, lf.	10 days	Mild
7.	Female, 30 yrs.	Frequent cat scratches	None	Both inguinal nodes	27 days	Mild
8.	Female, 4 yrs.	No history of scratch	Right mandible	Angle of jaw	30 days	Mild
9.	Female, 43 yrs.	Frequent cat scratches	None	Rt. groin	21 days	Mild
10.	Male, 8½ yrs.	Cat-scratch of face	Left temple	Angle of lft. jaw	25 days	Slight

TABLE 2.—*Laboratory data on ten cases of cat-scratch disease*

Case	Frei Test	Tuberculin Test	Culture Lymph Node	Skin Test	Heterophil Antibody	Agglutination Test		Blood Wassermann
				Cat-Scratch Antigen		Tularensis	Brucella abortus	
1.	Neg.	Neg.	Neg.	3+	Neg.	Neg.	Neg.	Neg.
2.	Neg.	Neg.	Neg.	4+	Neg.	Neg.	Neg.	Neg.
3.	Neg.	Neg.	Neg.	2+	Neg.	Neg.	Neg.	Neg.
4.	Neg.	Neg.	Neg.	2+	Neg.	Neg.	Neg.	Neg.
5.	Neg.	2+	Neg.	3+	Neg.	Neg.	Neg.	Neg.
6.	Neg.	2+	Neg.	2+	Neg.	Neg.	Neg.	Neg.
7.	Neg.	Neg.	Neg.	4+	Neg.	Neg.	Neg.	Neg.
8.	Neg.	Neg.	Neg.	3+				
9.	Neg.	Neg.	Neg.	2+	Neg.	Neg.	Neg.	Neg.
10.	Neg.	Neg.	Neg.	3+	Neg.	Neg.	Neg.	Neg.

cytoplasmic inclusions which are similar to the elementary bodies and granular corpuscles of psittacosis. Wegmann[26] and Winship[27] expressed doubt that these intracellular granules are virus inclusion bodies.

As to the source of the etiological agent, little is known. Cats appear to be immune to inoculation and are usually healthy at the time of transmission of the disease. This fact prompted Mollaret to postulate that the cat serves to carry the disease from some other reservoir in nature, presumably birds. Much remains to be done to clarify problems of etiology and epidemiology.

The basis of the present communication is pathologic studies of lymph nodes and subcutaneous tissue in ten cases observed at Sutter Hospital in a period of 18 months. Eight additional cases of probable cat-scratch disease were observed but were not included in this study because they did not meet all the diagnostic criteria. In Tables 1 and 2 the pertinent clinical and laboratory data concerning these cases are given.

CLINICAL STUDIES

Only cases in which there were typical clinical history and positive reactions to skin testing with cat-scratch antigen were included in the present study. As was pointed out by Daniels and MacMurray,[5] weak or negative reactions to the antigen have been observed in cases of cat-scratch fever.

Four of the ten cases occurred in children under ten years of age; the oldest patient in the series was 60 years of age. On close questioning all gave a history of intimate exposure to cats. Nine of the ten had been scratched by cats. In seven of the ten cases a primary skin lesion was present. The onset of regional lymph node enlargement followed the primary lesion in from one to three weeks. In two instances the inguinal nodes were involved, in five the axillary nodes, in two the cervical lymph nodes and in one the superficial cubital lymph node. All the patients had surgical removal of the affected lymph nodes. The time between the first sign of lymph node enlargement and operative removal varied from 12 to 35 days. Mild fever was observed in six cases. Malaise, headache and loss of appetite were noted in few cases. In the majority of cases constitutional symptoms were mild or absent. Reports of blood counts were not included since they were not of diagnostic value. Slight leukocytosis (up to 14,000 cells per cubic millimeter) was reported, with slight rise in the percentage of neutrophils. Eosinophilia was not observed.

In all cases skin tests using Frei antigen (Lederle) gave negative reactions (Table 2). Tuberculin skin tests gave positive reactions in two patients. Cultures of involved lymph nodes were negative for bacteria and fungi. Heterophil antibody tests and agglutination tests with Brucella abortus and Pasteurella tularensis were negative. Results of Wassermann tests were negative in all cases. All patients had positive skin reaction to antigens of cat-scratch fever. With the exception of the patients in Cases 9 and 10, who were tested with an antigen prepared from one of the patients in the present series, these patients were tested with antigen supplied by Drs. Daniels

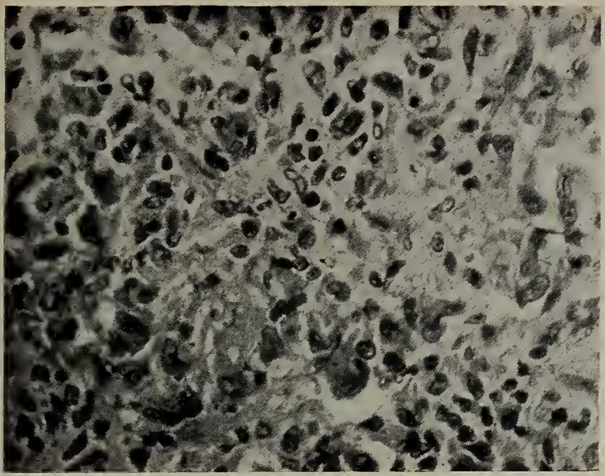

Figure 1.—Showing focal area of reticulum hyperplasia with beginning formation of proliferative tubercle (× 400).

and MacMurray. Positive reactions were characterized at 48 hours by a slightly elevated indurated nodule of pale reddish-brown color, varying in size from 0.5 to 1.5 cm. with a larger zone of erythema about the papule.

All patients made uneventful recovery following surgical removal of the enlarged lymph nodes despite extensive suppuration of the nodes and subcutaneous tissues.

PATHOLOGICAL CHANGES

The lymph nodes that were removed were enlarged and firmly adherent to the surrounding structure. The overlying skin was reddened in the severe cases and the nodes were tender. A variable amount of thin creamy exudate was observed in six cases. In Case 7 about 30 cc. of exudate was aspirated from the lymph nodes and subcutaneous tissues. The lymph nodes with pronounced suppuration were removed piecemeal with fragments of surrounding tissues. In milder cases the lymph nodes were intact. The surfaces of the nodes were roughened and small satellite nodes were usually adherent. The cut surfaces of some of the specimens showed a background of pale gray tissue in which many small discrete pale yellow irregular foci were seen, ranging in size from 2 mm. to 1 cm. in diameter; others showed a moist cut surface of brownish red color in which were seen small opaque foci of gray to light yellow color. The lymph nodes removed after the disease was far advanced were considerably indurated.

Sections were stained with hemotoxylin-eosin, Mallory's methyl blue-eosin, Van Gieson's stain, periodic acid leuko-fuchsin reticulum method, trichrome stain of Masson, Mann's methyl blue-eosin, reticulum stain, Giemsa, Feulgen's stain, acid-fast stain, Gram stain and Macchiavello's stain. Sections and smears from all cases were examined for acid-fast organisms, pathogenic fungi and bacteria, with negative findings.

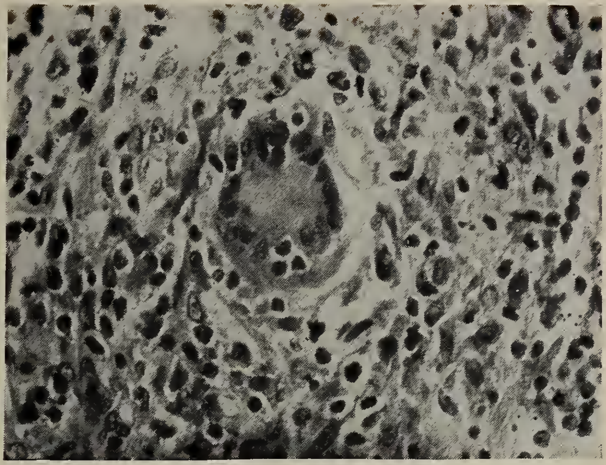

Figure 2.—Small tubercle with central Langhan's giant cell (× 400).

The earliest changes were seen in lymph nodes at ten days following the first signs of tumefaction (Case 6). These consisted of proliferation and swelling of reticuloendothelial cells to form irregular focal aggregates (Figure 1). The aggregates were most numerous in the cortex but the medulla was also involved. These cells, similar to the epithelioid cells seen in tuberculous lesions, had abundant eosinophilic cytoplasm, poorly defined cell borders and large pale-staining nuclei. Small clusters of these cells formed typical miliary tubercles composed of epithelioid cells, occasionally with a central giant cell of Langhan's type (Figure 2). In the centers of the medium-sized and larger aggregates of reticuloendothelial cells, exudation of polymorphonuclear leukocytes and fibrin occurred. In early lesions scattered lymphocytes appeared among the epithelioid cells; but in specimens taken at a later stage of the disease the epithelioid cells in the center of the lesion were replaced by dense masses of leukocytes, at first well preserved in structure but later showing degenerative changes of varying degree mixed with necrotic fragments of epithelioid cells (Figure 3). These degeneration changes were more pronounced at twelve days (Case 4). As a result, abscesses were formed with centers of necrotic cellular and nuclear granular debris surrounded by a well defined zone of epithelioid cells which tended to form a pallisade arrangement. Between the epithelioid cell layer and the central zone of necrosis an intermediate layer was usually present, consisting of semi-necrotic epithelioid cells. This layer was of variable thickness and composed of deeply eosinophilic granular debris containing attenuated pycnotic nuclei radiating toward the center. The shapes of the larger lesions were irregular and angular, very similar to the stellate abscesses seen in lympho-

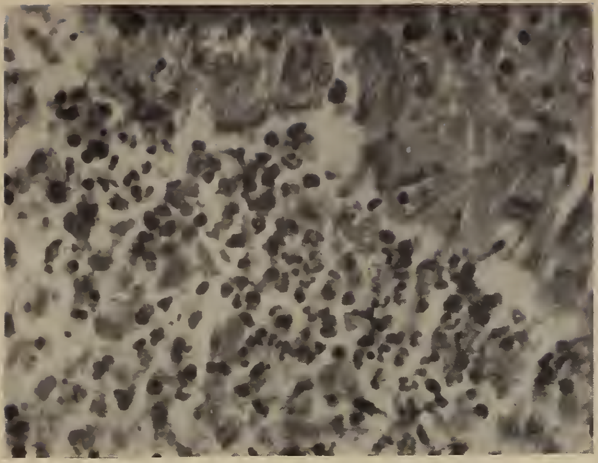

Figure 3.—Small micro-abscess with wall of epithelioid cells (× 400).

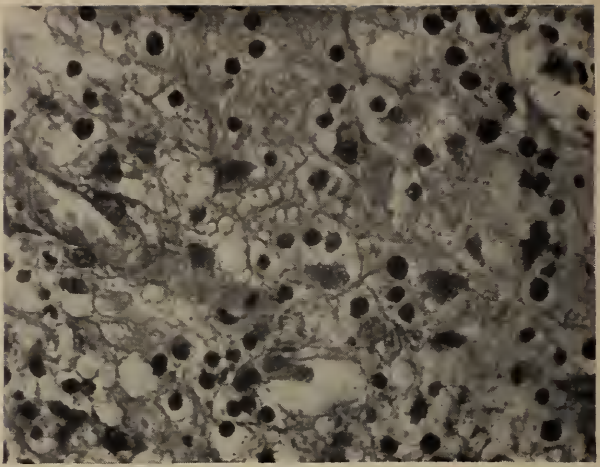

Figure 4.—Diffuse infiltration of histiocytes with foamy cytoplasm (× 400).

granuloma venereum. The smaller lesions were usually round in outline. In the center of the abscesses small remnants of epithelioid cells could be seen, and with the periodic acid reticulum stain the outlines of preexisting vessels were frequently noted. Reticulum fibers were present in the central zone of the early exudative phase but completely destroyed in the later stages.

The abscesses frequently showed conversion of the necrotic central mass into a homogeneous eosinophilic mass, at first patchy but later involving the entire central portion. Fairly well developed lesions of this type appeared at about 25 days. Complete homogenization of the centers of the abscesses was seen only in lesions of 30 to 35 days' duration. With Van Gieson's stain the homogeneous centers stained pale yellow; and when the homogenization was fully developed the staining reaction and appearance of the lesions were identical with the caseous centers of tuberculosis lesions. In well developed caseous lesions four zones were usually present, namely a central zone of caseous necrosis, a thin zone of partial necrosis, a multilayered zone of epithelioid cells arranged in pallisades and an outer layer of epithelioid elements arranged circumferentially. About these lesions there were large numbers of plasma cells, moderate numbers of eosinophils and many lymphocytes. Reticulum stains showed a delicate reticulum about the epithelioid cells and coarser fibers and collagenous fibers forming a network at the periphery. In the areas of early exudation considerable reticulum was present which disappeared as these foci became necrotic. However, a zone of collapsed reticulum was usually seen in the region of the junction of the necrotic center and the epithelioid cell layer. With the periodic acid reticulum stain a rather rich vascular network was demonstrated which extended through the zone of epithelioid cells toward the zone of necrosis.

Some of the epithelioid foci did not undergo central necrotic changes but persisted as irregular groups of cells which later showed formation of considerable amount of intracellular collagenous fibers. These changes were clearly demonstrated by Van Gieson's stain. In most cases small proliferative miliary tubercles were demonstrable.

An inflammatory reaction extended into the surrounding capsule and fatty tissue of varying degree in all cases studied. Mild involvement consisted of dense foci of lymphocytes, eosinophils and plasma cells, usually perivascular in arrangement. The small veins and arteries showed leukocytic infiltration of the outer layers, fraying of the collagenous fibrils and occasional small thrombi within their lumens. Frequently the tissues about the lesion showed extensive diffuse inflammation with formation of large abscesses usually surrounded by a thin layer of epithelioid cells. Diffuse sheets of histiocytic elements were frequently seen (Figure 4). These often showed abundant foamy vacuolated cytoplasm with sharply defined cell margins. Later fibroblastic proliferation occurred, accompanied by marked proliferation of capillaries. Plasma cells were very abundant. Numerous giant cells of foreign body type were seen in areas of diffuse inflammation. In addition, giant cells of Langhan's type were seen in the wall of the large abscesses. Some of these contained nuclear debris and were located on the inner epithelioid zone immediately adjacent to the central necrotic exudate.

In the older lesions (Cases 1, 5 and 8) extensive fibrous tissue proliferation was seen in the periphery of the necrotic foci surrounding the epithelioid cell zone and extending widely into the surrounding lymphoid tissue. In these areas of fibrosis, considerable infiltration of plasma cells were frequently noted. The lymphoid structures were largely replaced by fibrous tissue. The necrotic centers appeared contracted and were surrounded by a thin layer of epithelioid cells and a wide zone of connective tissue. The radial arrangement of epithelioid cells was retained in some of the lesions and lost in others. Replacement of this layer with fibrous tissue was noted, but there was little evidence of organization of the central caseous areas in the material studied. Calcification was not observed in the necrotic foci.

Only the early stages of healing were present in the material studied (Cases 1, 2, 5 and 8).

Skin lesions. In one case the primary lesion of the skin involving the lateral surface of the right thumb was removed. This was a small indolent lesion of violaceous color with a small central crust. A small amount of thin exudate had been expressed from time to time. The duration of this lesion was one month.

Microscopic examination showed the presence of a widespread inflammation involving the corium and the adjacent subcutaneous tissue. Aggregates of lymphocytes, plasma cells and eosinophils were present about the sweat glands, hair follicles and the small blood vessels. Small miliary granulomas were seen directly beneath the epithelium and also in the deeper corium. These consisted of small foci of epithelioid cells among which were many lymphocytes and few eosinophils. One tubercle contained a central giant cell. The epithelial layer showed slight thickening and edema of the deeper layers.

Inclusion bodies. Whenever possible, smears were made from unfixed fresh tissues by scraping the surfaces with a knife blade and spreading the material over a glass slide. The smears were fixed in methyl alcohol, corrosive sublimate and by drying. These were stained by Giemsa, Macchiavello's and Feulgen's methods. In smears prepared in this manner a more satisfactory study of cellular inclusions was possible than with fixed tissue sections. With Giemsa stain intracytoplasmic bodies were seen, principally in large reticuloendothelial cells. These were in the form of irregular bodies, some rounded, others of crescent shape with a maximum diameter of about 3 to 5 microns. In addition to these larger bodies there were numerous small rounded forms of fairly regular size and about 0.2 to 0.3 microns in diameter. These stained a light pure blue in contrast to the violet blue of nuclear material. With Macchiavello's stain these bodies took both the blue and red stain; the periphery appeared blue and the central portion showed red coloration. In addition, minute bodies were scattered in the cytoplasm which stained bright red. Other reticuloendothelial cells showed the presence of minute discrete particles smaller than bacteria which were loosely scattered in the cytoplasm. These stained blue with Giemsa. In fixed material both the large and finely divided bodies were demonstrable in swollen reticuloendothelial cells. With Mann's stain the finely divided granules appeared light purplish red. These bodies did not take the Fuelgen's stain for desoxyribose nucleic acid.

DISCUSSION

The pathological changes in cat-scratch disease follow a fairly consistent pattern. In study of a number of cases including both early lesions and fairly advanced lesions, the histogenesis of the lesions became apparent. The earliest changes consisted of reticuloendothelial hyperplasia in the form of plaques and small focal clusters These foci further developed in one of two directions. The most common form was characterized by exudation of polymorphonuclear leukocytes within their centers with the formation of microabscesses, some rounded and others stellate. These abscesses were surrounded by a well-defined zone of epithelioid cells tending to pallisade. Less frequently the small aggregates of epithelioid cells did not undergo necrosis but developed into tubercles of proliferative type, many containing central giant cells. These were seen in both the skin and lymph node lesions and often coexisted with suppurative foci.

The abscesses varied considerably in size and often reached large dimensions, especially in the tissues surrounding the involved lymph node. Pronounced degenerative changes occurred in the exudate with the conversion of the exudate into a basophilic granular mass containing nuclear and cellular debris. This granular debris later became hyalinized and stained pink with hematoxylin-eosin and light yellow with Van Gieson's. In this manner solitary and conglomerate tubercles were produced which were often undistinguishable from caseous lesions of tuberculosis. These areas of caseous necrosis coexisted side by side with suppurative foci, and all stages of development were seen in multiple sections of lymph nodes and surrounding tissues in a single specimen. On the basis of cytology the differentiation between this lesion and tuberculosis was frequently difficult, and no doubt in the past many of these nodes were classified as tuberculous inflammations despite lack of demonstrable organisms. The most important finding which served to differentiate this lesion from tuberculosis was the coexistence of an extensive exudative process and proliferative lesions, the former predominating in most instances. However, there were examples in which tubercles, both miliary and solitary, predominated and in these cases differentiation on the basis of morphology alone was indeed difficult.

The histogenesis of the caseative lesions differs in some respects from that of tuberculosis. It is Huebschmann's hypothesis[17] that the earliest phase in the formation of the tubercle is an exudative reaction associated with tissue injury. From a study of the earliest change in cat-scratch disease, reticulum hyperplasia is the earliest observed reaction; the exudative phase appears later and involves the center of the proliferative foci replacing these cells and forcing them toward the periphery. Necrosis and homogenization of the central exudate then follows. As in tuberculosis, caseous necrosis is bound to the exudative process. This process, however, does not follow the same pattern as Huebschmann describes in tuberculous lesions. It appears from these studies of the lesions of cat-scratch disease that the changes take the following order, namely, proliferative phase, exudative phase and finally the phase of coagulative necrosis, whereas in tuberculosis, according to Huebschmann,[17] the sequence is exudation-caseation-proliferation.

Mollaret and co-workers recognized three phases in the development of the lesions of cat-scratch disease. They observed that the first stage, or "elementary phase," consists of proliferation of reticuloendothelial cells, the second, or "accentuated phase," is characterized by exudation of leukocytes and formation of micro-abscesses and the third, or "ultimate phase," by formation of large foci of suppuration. Although this in general characterized the manner of development of the exudative process observed in the present series, this classification does not fully explain the development of the proliferative and caseative lesions so frequently observed. Also, all stages of development may be seen in the lymph nodes and surrounding tissues, indicating simultaneous regression and acute exacerbation. In addition, the process may stop at the first phase and heal by fibrosis.

It is difficult to reconcile the observations of the pathological changes in the material studied with those of Winship[27] who, in reporting upon a study of 29 cases, stated that epithelioid cells do not proliferate until abscesses are well developed, whereas the reverse appears to be the case. Also Winship's statement that changes simulating caseous lesions of tuberculosis were not present in cat-scratch disease cannot be accepted on the basis of observations made in material from the present study. In physical appearance and tinctorial characteristics, coagulative necrosis in cat-scratch disease is indistinguishable from the caseous necrosis of tuberculosis.

The differentiation of cat-scratch disease and lymphogranuloma venereum on the basis of gross and histological characteristics is extremely difficult. There is a greater tendency in lymphogranuloma venereum to suppurate and form multiple sinuses, although in cat-scratch disease this may be observed in severe cases. The distribution of the lesions is quite different. The nodes of the upper portion of the body, mainly the epitrochlear, axillary and cervical nodes, are most commonly involved with cat-scratch disease whereas the inguinal nodes are most frequently involved in lymphogranuloma venereum. Cytological changes are very similar; and the histogenesis is similar in the two diseases. The intermediate zone of partial homogenization of epithelioid elements appears much broader in lymphogranuloma venereum than in cat-scratch disease. In general the tendency to form caseative tubercles is greater in cat-scratch disease than in lymphogranuloma venereum. Despite these differences, the lesions cannot be separated on the basis of histological changes alone. The final diagnosis is dependent on the clinical studies, laboratory tests and skin tests. The striking similarity of the histopathological changes in the two diseases lends additional support to the theory that the causative organisms are closely related.

The ulceroglandular form of tularemia must be differentiated from cat-scratch disease. The early phases of tularemia show focal areas of necrosis bordered by narrow rows of epithelioid cells. Often the epithelioid reaction is insignificant or masked whereas in cat-scratch disease the epithelioid reaction is the initial reaction, with exudation and necrosis of their centers a later development. In the later stages the differentiation between the two conditions may be more difficult. Tubercles with caseous centers and epithelioid cells may develop in both diseases. Lillie and Frances[18] described an inner collagenous zone separating the caseous from the epithelioid pallisades. This is not commonly observed in cat-scratch disease. The clinical and laboratory studies further serve to differentiate these two conditions.

Other conditions such as sporotrichosis, tertiary syphilis, brucellosis and diseases caused by pathogenic fungi must be ruled out by appropriate studies.

The significance and diagnostic importance of intracytoplasmic inclusion bodies is debatable. With Macchiavello's stain these bodies are clearly demonstrable in two forms, namely large irregular plaques 7 to 10 microns in size, and small micrococcoid forms. A matrix was not demonstrable. Despite the fact that the tinctorial reaction and morphologic features of these inclusions are similar to those described in psittacosis by Yamamura and Meyers[28] and in cultures of virus of lymphogranuloma venereum by Rake,[23] final proof that these are specific inclusion bodies must await isolation of the virus and demonstration of similar inclusions in tissue culture.

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REFERENCES

1. Bettley, F. R., and Fairburn, E. A.: Cat-scratch disease. Intradermal tests in controls, Lancet, 264:520, 1953.

2. Cassady, J. V., Culbertson, C.: Cat-scratch disease and Parinaud's oculoglandular syndrome, Arch. Ophth., 50:68, 1953.

3. Cuttle, T. D.: Benign lymphoreticulosis of inoculation, Calif. Med., 76:405, 1952.

4. Daeschner, C. W., Salmon, G. W., and Heys, F. M.: Cat-scratch fever, J. Ped., 43:371, 1953.

5. Daniels, W. B., and MacMurray, F. G.: Cat-scratch disease: nonbacterial regional lymphadenitis; a report of 60 cases, Ann. Int. Med., 37:697, 1952.

6. Daniels, W. B., and MacMurray, F. G.: Cat-scratch disease, Tr. A. Am. Physicians, 64:137, 1951.

7. Daniels, W. B., and MacMurray, F. G.: Cat-scratch disease, J.A.M.A., 154:1247, 1954.

8. Debre, R., Lamy, M., Jammet, M. L., and Mozziconacci, P.: La maladie des griffes de chat, Bull. et mem. Soc. med. d hop. de Paris, 66:76, 1950.

9. de Lavergne, V., Thomas, C., et Algan, B.: La forme oculoganglionnaire de la lymphoreticulose benigne d'inoculation, Bull. et mem. Soc. med. d. hop. de Paris, 67:985, 1951.

10. Epstein, E.: Cat-scratch fever, Arch. Derm. and Syph., 66:240, 1952.

11. Flores, A.: Die Benigne, durch Inoculations ubertragbare Lymphoretikulose (Morbus Petzetakis oder Katzenkratz-Krankheit), Wien. Klin. Wochenschrift, 64:50, 1952.

12. Foshay, L.: Cited by Daniels and MacMurray,[5] Greer[16] and Debre.[8]

13. Foshay, L.: Letter to the Editor, Lancet, 262:673, 1952.

14. Frank, E., and Harder, H.: Cat-scratch fever in the Los Angeles area, Calif. Med., 80:48, 1954.

15. Gifford, H., et al.: Cat-scratch fever, Stanford Med. Bull., 10:157, 1952.

16. Greer, W., and Keefer, C. S.: Cat-scratch fever: a disease entity, N.E.J.M., 244:545, 1951.

17. Huebschmann, P.: Pathologische Anatomie der Tuberculose, Julius Springer, 1928.

18. Lillie, R. D., and Frances, E.: The pathology of tularemia in man, Nat. Inst. Health Bull., No. 167, 1936.

19. Mollaret, P., Reilly, J., Bastin, R., and Toumeir, P.: Lymphoreticulose benigne d'inoculation et caracterisation du virus par serologie et colorations, Bull. et mem. Soc. med. d. hop. de Paris, 67:693, 1951.

20. Mollaret, P., Reilly, J., Bastin, R., et Tournier, P.: Sur une adenopathie regionale subaigue et spontanement curable avec intradermo-reaction et lesions ganglionnaires particulieres, Bull. et mem. Soc. med. d. hop. de Paris, 66: 424, 1950.

21. Mollaret, P., Reilly, J., Bastin, R., et Tournier, P.: Reaction de fixation du complement dans la lymphoreticulose benigne d'inoculation, Soc. d. biol. Compt. rend., 144: 1493, 1950.

22. Mollaret, P., Reilly, R., Bastin, R., and Tournier, P.: Lymphoreticulose benigne d'inoculation, Bull. et mem. Soc. med. d. hop. de Paris, 67:693, 1951.

23. Rake, G., and Jones, H.: Studies on lymphogranuloma venereum, J. Exp. Med., 75:323, 1942.

24. Stevens, H.: Cat-scratch fever encephalitis, Am. J. Dis. Child., 84:218, 1952.

25. Todd, L. P.: Cat-scratch fever in the San Francisco peninsula, Calif. Med., 80:48, 1954.

26. Wegmann, T., Usteri, C., Hedinger, C.: Die sogennate Katzenkratz-Krankheit, eine benigne Virus Lymphadenitis, Schweitz. Med. Wchnschr., 81:853, 1952.

27. Winship, T.: Pathologic changes in so-called cat-scratch disease, Am. J. Clin. Path., 23:1012, 1953.

28. Yamamura, H. Y., and Meyer, K.: Studies on the virus of psittacosis cultivated in vitro, J. Inf. Dis., 68:1, 1941.

Anesthesia for Eye Operations in the Aged

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• Aged persons appear to fear eye operations. Hence both patient and surgeon are more at ease with the use of a general anesthetic, particularly if the anesthetist has visited the patient before the operation and reassured him. Early ambulation, ordinarily so desirable in the aged, is curtailed in most eye operations because the head and eyes must be completely quiet. Since barbiturates are not well tolerated by aged patients, Dramamine is used instead preoperatively. Dramamine adequately sedates but does not cause depression or hallucinations. Morphine is contraindicated because of its pupillary action; Demerol is the drug of choice for preoperative medication.

Xylocaine applied directly to the pyriform fossa and vocal cords prevents laryngospasm, coughing and straining. Then, following induction with Pentothal, a Guedel airway is introduced into the oropharynx and through it a continuous flow of oxygen is maintained throughout the procedure. Relaxation of the eyelids is aided by the use of various muscle relaxants, succinylcholine being the relaxant of choice because it is rapidly eliminated. By administering narcotics intravenously during the course of the operation the amount of Pentothal needed can be held to a minimum. To prevent any slowing of the respiration, Nalline is administered in conjunction with the narcotic. In dealing with debilitated patients, Nalline is usually given in conjunction with the preoperative narcotic. Any latent slowing of the respiration can be promptly relieved by an additional dose of Nalline.

MOST OPERATIONS ON THE EYES of aged persons are elective cataract extraction or iridectomy. Since the operations are elective, the usual problems of the aged. such as nutritional deficiencies and cardiovascular, renal and liver disorders have in most cases been medically surveyed and corrected as far as possible before the patient is admitted to the hospital.

Most elderly patients appear to fear operations on the eyes as much as they do major abdominal operations. This fear may account for the fact that there is a steady increase in general anesthesia for eye operations. Many surgeons prefer general to local anesthesia. With the patient asleep the surgeon has no urge to hurry as he might if the patient were awake and becoming restive and uncooperative. Moreover, the patient is relieved of the emotional strain of facing the operation and of fear that he might not be cooperative (many suspect that most failures are caused by poor cooperation).

Care of elderly patients after operations on the eyes presents special problems. Postoperative procedures ordinarily carried out after other kinds of operation—early ambulation, leg exercise, frequent turning in bed and encouragement of cough—have to be foregone. After cataract removal, for example, the patient must lie quietly flat in bed for from two days to a week, and for at least three weeks after repair of a detached retina. Coughing, straining, gagging or sneezing must be avoided. In patients of the older age groups the success of operation depends more on the quality of preoperative preparation, the administration of anesthesia and postoperative care than on the operation itself.

PREOPERATIVE INTERVIEW

Elderly patients are accustomed to certain habits and surroundings and the change of environment upon entering the hospital often gives rise to apprehension. Frequently an anesthetist deals with a depressed and discouraged patient in preoperative interview and an optimistic approach to the problem is welcomed. In the preoperative visit one should never be hurried and the visit should be one of pleasure and reassurance to the patient. Aged persons are usually eager to disclose previous anesthetic difficulties, allergic sensitivities and intolerance to certain drugs. Much can be gained from careful attention to their remarks. Many are particularly concerned about the kind of anesthetic they are to receive. Complete frankness and full explanation of their anesthetic problem is both desired and appreciated. They should be assured that there will be little discomfort or pain following the operation.

As a rule there is no need for preoperative sedation, but if it is needed codeine may be given. (To be certain the patient is not sensitive to codeine, a test dose of 30.0 mg. is given.) As Demerol® is administered both before and during operation, inquiry should be made regarding sensitivity to it. The pa-

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tient should be assured that although he will be awake on going to the surgery, preoperative medication will give a feeling of complete indifference and he will be calm and cooperative.

For sedation the night before operation, either Nembutal® or Seconal® is given in 50 to 100 mg. dosage. Since aged patients do not tolerate barbiturates well, they should not be given preoperatively the day of operation. Dramamine® instead is very effective; it does give rise to some drowsiness but does not cause hallucinations or respiratory depression and it reduces the incidence of nausea and vomiting.[11] With Dramamine the patient arrives in surgery awake, stolid and indifferent. Dramamine thereby meets one of the chief requirements of operations on the eyes in the aged—that of having the patient adequately sedated but not depressed. The dose of Dramamine is 50 to 100 mg. If administered orally it is given two hours before operation; if parenterally, it is given along with Demerol and atropine one hour before operation. Demerol, the narcotic of choice, is administered in 50 mg. dosage. Morphine is contraindicated for patients having cataracts removed because its pupillary action often counteracts the dilating effect of homatropine or Neo-Synephrine® and thus delays operation.

It is important to prevent straining, coughing, gagging and vomiting both during and after operation. The most effective means of accomplishing this is to anesthetize the sensory nerve ends of the larynx. This can be done in numerous ways and with a variety of anesthetic agents but the most consistent results have been obtained with topical application of 2 per cent Xylocaine solution. With the use of laryngeal forceps the solution is applied directly to the pyriform fossa and the vocal cords. The best indication that the anesthetic solution has been properly placed is difficulty in initiating the act of swallowing.

In order that the surgeon's access to the operative field may be unimpaired, it is customary to introduce the tube for intravenous drip at the wrist, the elbow or the ankle. Anesthetic solutions are then injected in the rubber tube portion of the intravenous set.

Pentothal sodium in 2 or 2.5 per cent solution is the agent used for induction of anesthesia. As soon as the patient is asleep the lower jaw relaxes, which, with the face of the patient straight up as it must be for operations on the eye, usually partially or completely obstructs the airway. A Guedel airway lubricated with 5 per cent Xylocaine ointment is therefore introduced into the oropharynx; with slight extension of the head, the airway then will be patent.

The multiple drapes used in eye operations completely cover the face with the exception of the operative field. To insure adequate oxygen and prevent accumulation of carbon dioxide beneath the drapes, a continuous flow of oxygen at a rate of 3 to 4 liters per minute is supplied by inserting a rubber catheter into the Guedel airway. This may stimulate laryngeal reflexes with resulting spasm, coughing or gagging if the topical anesthesia is inadequate.

Good relaxation of the eyelids and a quiet eye are required in eye operations. Some surgeons prefer blocking the seventh nerve, by either the Van Lint or the O'Brien method, for this purpose. Excellent relaxation of the lids and elimination of ocular movement can be obtained, however, by using one of the several muscle relaxants. The special value of the muscle relaxants lies in the selective sequence of muscle paralysis—the muscles of the eyes and lids first. Judicious use of a muscle relaxant not only eliminates the squeezing of the lids and movements of the eye but reduces intraocular tension. There is considerable variation among persons in sensitivity to the various muscle relaxants.[8] The only way to determine the effect of a given relaxant upon a patient is to observe the effects of the initial dose and the first supplementary dose. Succinylcholine is the drug of choice for this purpose in eye operations, for it acts quickly and any untoward effect is apparent within one or two minutes. Moreover, owing to rapid enzymatic hydrolysis of the drug, unwanted effect will abate within two to five minutes. Succinylcholine is administered by continuous drip at a speed that will maintain adequate lid relaxation with little respiratory depression.

In aged persons the amount of Pentothal® needed for induction and maintenance of anesthesia is almost impossible to predict. Even with small intermittent doses which are presumably metabolized rapidly there is such a wide variance in response that sometimes it takes a long time for even small doses to be eliminated. For the purpose of reducing the amount of Pentothal needed it has become a common practice to administer morphine or some comparable narcotic intravenously during the course of the operation. This intravenous opiate usually causes so much slowing of the respiratory rate that often it becomes necessary to assist respirations to insure adequate oxygenation. The slowing of respiration induced by morphine or similar opiate can be relieved by the administration of N-Allyl-normorphine (Nalline®).[2] When Nalline is administered before or in conjunction with the narcotic respiratory depression is prevented.[5, 6] Nalline probably displaces the opiate from certain receptors in the respiratory center in a competitive fashion.[6, 9] Although Nalline itself is slightly depressant to the respiratory center it is less so than morphine or similar opiates.[12] Displacement of the opiate by Nalline immediately eliminates the characteristic slowing effect of the opiate on the respiratory rate[2] and increases the sensitivity of the respiratory center to carbon dioxide.[3, 4] The increased concentration of carbon dioxide in the blood stimulates the respiratory rate above normal for a few moments until the carbon dioxide is reduced toward a more physiologic level; then respiration becomes normal and remains normal.[5, 10] Nalline does not cause significant changes in blood pressure or pulse rate. It does not alter arterial oxygen content but does cause pronounced decrease in arterial carbon dioxide content.[10] The displacement action of Nalline is as effective with the derivatives of morphine — meperdine (Demerol), methadon (Dolophine®) and methorphian (Dromoran®)—as it is with morphine itself.[1, 7] It has no effect on the respiratory depression caused by Pentothal.[5, 6, 7]

Nalline is administered in conjunction with the opiate. It is prepared in the following manner: Nalline 10 mg. and Demerol 100 mg. (or morph sulphate, 15 mg.) are combined and diluted to a total of 10 cc. This mixture is administered intravenously in the amount desired. With patients aged 70 or older it is a common practice to administer 50 mg. of Demerol and 5 mg. of Nalline. Both Nalline and the opiate are usually eliminated in three to four hours but it must be kept in mind that in aged persons the narcotic elimination may be delayed, with resulting characteristic slowing of the respiratory rate. In a series of over 700 cases observed by the author there was one instance of delayed respiratory depression.

There is a considerable variation in response to narcotics in the aged, and sometimes when the Nalline-opiate mixture is administered to a person who already has received other drugs, slowing of the respiratory rate may occur. Additional Nalline will increase respirations. In this series there was no change made in the ratio of Nalline to opiate. Less Nalline might be as effective. With the one exception more Nalline was not needed.

The lethal dose of Nalline in man has not been clearly determined, but it is suggested that not more than 40 mg. should be administered in a single dose. The largest single dose administered in this series was 10 mg.

The author has observed 388 cases in which persons 70 years of age or older were given a Nalline-Demerol mixture for anesthesia during operations on the eyes. It was very satisfactory. Side effects were minimal. There was no increase in nausea or vomiting. Use of the mixture reduced the use of Pentothal, which decreased postoperative sleeping time.

It has long been believed that large therapeutic doses of narcotics are contraindicated for aged persons. It would appear that the concept of restricting the use of narcotics in the aged must be reevaluated in the light of the present experiences with the use of a Nalline-opiate mixture.

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REFERENCES

1. Bornstein, M., Yorburg, L., and Johnston, B.: N-allyl-normorphine in treatment of methorphian (Dromoran) hydrobromide poisoning, J.A.M.A., 151:908-910, March 14, 1953.

2. Dripps, R. D., and Comroe, J. H., Jr.: Clinical studies on morphine; immediate effect of morphine administered intravenously and intramuscularly upon respiration of normal man, Anesthesiology, 6:462-468, Sept. 1945.

3. Dripps, R. D., and Dumke, P. R.: Effect of narcotics on balance between central and chemoreceptor control of respiration, J. Pharmacol. and Exper. Therapy, 77:290-300, March 1943.

4. Dumke, P. R., and Dripps, R. D.: Influence of anesthetics on balance between chemoreceptor and central control of respiration, Fed. Proc., 1:150, March 1942.

5. Eckenhoff, J. E., Elder, J. D., and King, B. D.: Effect of N-allyl-normorphine in treatment of opiate overdose, Am. J. M. Sc., 222:115, July 1951.

6. Eckenhoff, J. E.: Elder, J. D., and King, B. D.: N-allyl-normorphine in treatment of morphine or Demerol narcosis, Am. J. M. Sc., 223:191-193, Feb. 1952.

7. Eckenhoff, J. E., Hoffman, G. L., and Dripps, R. D.: N-allyl-normorphine: antagonist to opiates, Anesthesiology, 13:232-251, May 1952.

8. Foldes, F. F., Machaj, T. S., Hunt, R. D., McNall, P. G., and Carberry, P. C.: Synthetic muscle relaxants in anesthesia, J.A.M.A., 150:1559-1566, Dec. 20, 1952.

9. Hart, E. R.: Further observations on antagonistic actions of N-allyl-normorphine against morphine, Fed. Proc., 2:82, March 1943.

10. Landmesser, C. M., Cobb, S., and Converse, J. G.: Effects of N-allyl-normorphine upon the respiration depression due to morphine in anesthetized man with studies on the respiratory response to carbon dioxide, Anesthesiology, 14:535-549, Nov. 1953.

11. Millett, D. K., and Henry, M. O.: Prevention of post-anesthetic nausea with dimethydrinate (Dramamine), Minn. Med., 34:1096-1097, 1114, Nov. 1951.

12. Unna, K.: Antagonistic effect of N-allyl-normorphine upon morphine, J. Pharm. and Exper. Therapy, 79:27-31, Sept. 1943.

Permanent Disability Evaluation

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• *Physicians' reports for the purpose of permanent disability rating differ in character and in scope from usual clinical reports. Complete and precise reporting of permanent disability factors by physicians aids the Industrial Accident Commission in making proper awards for permanently disabled workmen.*

The use of a CMA-approved method of reporting permanent disability factors reduces misunderstanding and needless delay in adjustment of cases.

THIS YEAR MARKS the fortieth anniversary of the California system of permanent disability evaluation of the Industrial Accident Commission and, generally, of the Workmen's Compensation Law as it stands today. This would therefore seem an appropriate time to review the basic principles of the California system, so that you the attending, treating and examining physicians of the state, and we of the Commission, might view the problem of permanent disability through the same eyes and thereby might better serve the people of California in our joint tasks.

First of all, it must be remembered that the concept of damages is alien to any consideration of workmen's compensation benefits. It was the inability of the damage system to cope with the problem of the industrially injured workman that led to the development of workmen's compensation. The purpose of the law is not to indemnify an injured employee for the consequences of injury, but merely to provide assistance to him during his period of disability. While it is a fundamental principle of workmen's compensation that industry should take care of its own, an injured employee must still bear some of the burden resulting from his injury.

Many methods have been developed for compensating permanent disability in the years that have elapsed since the first workmen's compensation principles were conceived. The founding fathers of workmen's compensation in California studied other existing methods and found them wanting.

One theory, that payment should continue indefinitely solely upon a percentage of actual wage loss following injury, was not accepted. Influences independent of the disability itself (such as, for instance, economic cycles, good times and bad) and individual factors (such as opportunity for obtaining employment because of friends or relatives, or, on the other hand an unwillingness to seek reemployment) quickly beclouded the effects of the disability itself. The necessity for making allowances for these extraneous factors and the necessity for following every case for years would have presented administrative problems of considerable magnitude.

Use of the so-called flat rate schedule composed of a relatively short list of disabilities and providing a specified amount of money or number of weeks of payments for each disability, left much to be desired. First, the injury list was meager and not detailed, leaving too many nonscheduled disabilities and with but few rules for evaluating them. The important elements of occupation and age were not included for the most part, or, if they were mentioned, no specific method of weighing these factors was indicated.

In 1914, the Commission brought forth a Schedule for Rating Permanent Disabilities. It was unique in character and concept. It demonstrated that the factors of disability, occupation and age could be correlated and scheduled.

The California concept of rating, very briefly, is this: As the member of the body disabled is of relatively greater or less importance in the occupation of the injured employee, the rating is accordingly increased or decreased from the standard. Thus, a structural steel worker would receive a higher rating for disability of a leg than would an office worker with a similar disability.

With reference to the age factor, disability increases with age. Thus, a young man with a given disability would receive a smaller rating than an older man with the same disability, assuming they were both in the same occupation. This is because a younger man has greater adaptability than an older man and usually would adjust more quickly to his handicap than would the more aged employee. Also, it is more difficult for the older man to obtain new employment. To reverse the principle so that disability rating decreases with age on the assumption that the younger man would have to carry his handicap for a longer period of time would be to permit the damage concept to enter into the disability evaluation. The occupation and age features

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do not add to the employer's cost. It simply means a more realistic distribution of compensation benefits.

The 1914 schedule was amended only slightly during the following 35 years. In 1950 a revised schedule became effective embodying the same basic principles as the earlier schedule. The basic ratings for individual disabilities were reexamined and revised. Occupations were regrouped in the light of changing industrial procedures, and the format was changed to afford easier use of the schedule. The adoption of the 1950 schedule followed several years of study of rating procedures throughout the world, and analysis of schedules from all domestic and many foreign jurisdictions. The Commission was fortunate in having available to it Robert E. Haggard, who for over 30 years had been associated with the Rating Bureau, and whose vast experience and knowledge were invaluable to the study.

Briefly, the present schedule contains a list of some 300 disabilities, each with a standard rating bearing a percentage of total permanent disability. The disabilities listed relate to the end result and not to the initial diagnosis. (Loss of motion of a wrist joint is listed, but a Colles fracture is not.) These disabilities are correlated with some 1,800 occupational titles, each of which is assigned to one of 60 occupational groups based upon the similarity of the physical demands of the occupations. A table for the age variant is included.

The percentage ratings specified are considered adequate on the average to compensate for the residual disability resulting from the injury and to afford a reasonable period of adjustment to the effect of such injury.

The California system has not been without criticism from both within and without the state. Most of the criticism is based upon the contention that the schedule is too complex. Other quarters question the validity of scheduling occupation and age. In reply to the first objection, the author would suggest that it is primarily the disability itself that is complex, and not the schedule. The schedule appears complex because it contains either listed disabilities or rules for rating many disabilities which would be nonscheduled under other types of schedules. Frequently those who object to a complex schedule at the same time object to nonscheduled ratings. It is obviously impossible to schedule all conceivable disabilities. Some degree of discretion is inevitable.

With reference to the second objection, it might be observed that it is far better to schedule occupation and age factors than to leave consideration of these elements to persons who have no common meeting ground for appraisal and whose personal views would lead to divergent conclusions.

The Labor Code specifies that four disabilities are conclusively presumed to be total in character. They are: loss of both eyes or the sight thereof, loss of both hands or the use thereof, an injury resulting in a practically total paralysis and an injury to the brain resulting in incurable imbecility or insanity. In all other cases total permanent disability must be determined in accordance with the individual circumstances in each case. The Labor Code further requires that in determining the degree of permanent disability consideration be given to the diminished ability of the injured employee to compete in an open labor market.

It is known from common experience that a blind man or a paraplegic man can earn. Therefore even the statutory total permanent disabilities do not necessarily contemplate that the injured employee is unable to work or is unable to earn money. Under the code it would appear that mere loss of ability to compete in an open labor market with other employees is sufficient to warrant a rating of total permanent disability. The employee need not be helpless and unable to do anything to earn a living.

This brings out the distinction between the purpose of temporary disability payments and of permanent disability payments. Temporary disability payments are based solely upon loss of wages during the healing period. Unless there is actual wage loss, there is no basis for payment of temporary disability, no matter how gravely injured the workman may be or how extensive his injury. The purpose of temporary disability compensation payments is to cushion the effects of actual wage loss incurred by the employee during the period of treatment and healing.

As to permanent disability payments, however, the concept is entirely different. They are based upon a prospective loss or impairment of earning power. This principle was illustrated some years ago by Mr. Gustav Michelbacher, who was chairman of the study which led to the formulation of the 1914 schedule:

"It is a matter of common knowledge that the laborer who, for example, loses one eye, while he may suffer no loss of earning capacity by reason of the physical impairment does suffer a loss in competing power, which is an important factor in determining the effect of this accident upon his future earning capacity. The worker who has lost an eye must compete for the rest of his life with healthy two-eyed workers, and even though he be physically able to perform the work equally as well as before the accident, he will still have difficulty in obtaining a chance to perform work in competition with other workers who are physically perfect."

The greater the permanent disability the longer the payments continue. This affords a longer period of rehabilitation and readjustment for the more serious disabilities, and a shorter period for the less serious. In this connection Mr. William Leslie, who also participated in the creation of the 1914 schedule, wrote: "It is frequently referred to as the rehabilitation theory and assumes that the permanently injured worker either can or cannot regain his earning capacity. If he cannot, he must be compensated for life. If he can, he must be aided financially during the period of rehabilitation. The period of rehabilitation will on the average vary with the extent of disability."

Once the degree of permanent disability has been determined, payments are made under a formula set forth in the Labor Code, calling for four weeks of compensation payments for each 1 per cent of disability, and further providing that if the disability is 70 per cent or greater, there is in addition provided a life pension at a lower rate than the normal compensation.

In analyzing ratings and awards of the Commission, attention should be directed to the percentage of disability and not to the amount of money which the injured employee is to receive. The schedule provides a standard rating of 30 per cent of disability for the enucleation of one eye. This calls for 120 weeks of disability payments. The amount of the weekly payment varies according to the earnings at time of injury, from a minimum of $9.75 a week to a maximum of $30. Thus, the amount of money received could vary from a minimum of $1,170 to a maximum of $3,600. The important thing, however, is that regardless of the size of payments, they continue for the same length of time, in this instance 120 weeks.

From a procedural point of view, it should be remembered that in a controverted case it is the function of the trial referee to determine the factors of permanent disability that have resulted from the injury, on the basis of the record before him. Once these have been identified to the rating bureau, the factors presented are applied to the schedule and a recommendation is made to the referee. The report of the rating bureau is a recommendation only, and is not binding on the referee or the Commission. For that matter, the Labor Code provides that the schedule itself is but prima facie evidence and hence can be rebutted.

In informal or advisory ratings in which there is no formal proceeding before the Commission, the factors used as a basis for recommendation are extracted from the medical reports.

Now a physician might say, "This is all very well and good, but how do I fit into the picture? Of what use are my reports and how are they applied in a practical way?"

Medical reports are the keystone of awards of the Commission. They are as important to the Commission as a blueprint is to a construction engineer.

Depending upon the particular question involved, the type of report desired may vary. In some cases the physician may be asked whether the alleged incident produced the disability claimed, in other cases, whether the asserted incident alone contributed to the end result, or whether preexisting or coexisting disabilities also contributed.

The author's remarks, however, are directed solely to reports pertaining to the permanent residuals of an accepted injury.

A clinical report may supply answers to etiologic questions and hence assist in identifying or denying liability in the first instance, yet may be of little help in the evaluation of a case from a rating viewpoint. The physician's report on factors of permanent disability is different in scope and character from the report which may have identified injury with employment.

It is essential that rating reports convey a thorough and accurate picture of the disability under consideration. The attending and examining physician therefore takes on a dual role—first, that of directing his professional skill and ability to curing and relieving the effects of injury; and second, that of being in a sense a reporter describing in clear and unmistakable terms the disability present. If a report is not clear it can cause needless misunderstanding and delay.

In a case involving industrial disability, the physician's report may pass through many hands during the adjustment of the case. The claims adjuster and perhaps the carrier's attorney, the applicant and perhaps the applicant's attorney, other examining physicians, as well as the staff of the Commission may all at some time review the report. All of these persons rely upon the reporting physician for an accurate picture of the disability involved in the case, since many of the persons who review the report never see the injured employee.

In an effort to eliminate misunderstanding and to afford physicians an outline of the information desired in the reports for rating, a committee composed of representatives of the California Medical Association and of the Commission, under the able chairmanship of Dr. Packard Thurber, submitted a report for the Standardization of Joint Measurements, some four years ago. The report was adopted by the Commission at that time and has since been published under the title of "Evaluation of Industrial Disability." Use of the procedures described is widespread but not universal, and the Commission earnestly requests that all physicians prepare their reports in accordance with the standardized procedure.

Disabilities such as those of amputation and limited motion are not difficult to evaluate, and frequently can be related directly to the Schedule. The nondemonstrable factors such as pain, weakness and sensory alterations pose the greatest problem to persons associated with ratings. The courts have found that pain, for instance, is ratable if it contributes to loss of earning power. Therefore if pain is present it must be included as a factor in the rating.

Only by a thorough description of such factors and their effect upon normal activities can the disability be adequately portrayed and rated. It is not sufficient to know that a man may have a slight, moderate or severe pain in a certain portion of the body. It is necessary that the persons determining the rating know the activities that produce the pain, the means necessary for relief, the duration of the pain and the activities that are handicapped or precluded by the pain. In short, it is necessary to know what the injured person can do despite the injury, what he can not do as a result of the injury and the extent to which disability is influenced by nondemonstrable factors.

The framework of the description is not much different from the "who, what, where, when and why" that journalists use in writing newspaper stories. The terminal report should not be directed solely to the site of injury but should include any secondary effects as well. For example, an ankle injury may result in limited ankle motion but also may produce permanent atrophy of the thigh muscles. The entire extremity should therefore be examined and a report made upon it.

With a complete picture the Commission and its staff are in a far better position to gauge the extent of disability and to make the proper and appropriate award. Obtaining the picture depends greatly on full and precise reporting by physicians. With understanding and cooperation, the joint task of physician and Commission will be made easier and the results more satisfactory.

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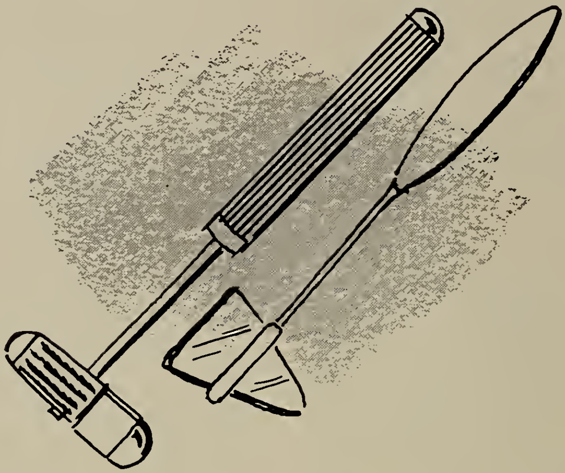

Congenital Absence of the Vagina

Surgical Correction

JOSEPH GASTER, M.D., Los Angeles

• *In the two cases of congenital absence of the vagina reported herein, the embryologic point of arrest of development of the mullerian ducts was identical. Both patients had a rudimentary uterus, and one had a fibroid tumor on the rudimentary uterus. As a part of operation to construct a vagina in such cases, exploratory pelvic laparotomy appears to be a desirable step in order to determine the status of the internal genital organs.*

The use of a split thickness skin graft sewn around a vaginal mold and inserted into the dissected vaginal space results in more rapid healing, less scar tissue and a vagina that is soft, pliable and normal in appearance, even to the extent of having rugal folds.

ABSENCE OF THE VAGINA in a well-developed woman, normal in all other respects, is almost incredible, although not extremely rare. The incidence of the condition is not known exactly, but in view of the increasing number of cases being reported, it is probably much higher than it was once believed to be. Estimates vary from one case in 5,000 births[7] to six cases in 500,000 hospital admissions.[25]

As a rule the defect is not recognized until the age of puberty, for the external genitalia usually appear more or less normal. In many instances it does not come to notice until marriage is contemplated. Frequently the condition is associated with other anomalies of the internal genital organs, the most common of which is aplasia or rudimentary uterus with no endometrium and no tendency toward the development of hematometra. If the ovaries are present the patient is endocrinologically normal, but unless a vaginal canal can be constructed she cannot have normal sexual relations. In many instances neurosis develops from the patient's attitude toward this inadequacy. In several cases of record the urethra was sufficiently dilated to permit sexual intercourse.

The psychologic consideration is of great importance. Assurance that the condition is not very rare and that it will not, of itself, interfere with normal health will do much to help patients in whom the condition exists. Operative intervention should be postponed, if possible, until marriage is contemplated. Many surgeons believe that surgical correction of the defect should never be advised. However, when a patient with this condition wishes to be married or for other reasons wants the condition corrected, no amount of advice will change her mind.

EMBRYOLOGY

It is from the mullerian ducts that the entire internal genital tract of females develops. From the fifth to the sixth week of gestation, with the development of the genital glands on the mesial side of the wolffian bodies, the mullerian ducts develop on the lateral aspect of the wolffian ducts as a tubular invagination of the cells lining the coelum. The orifice of the invagination remains patent and undergoes enlargement and modification to form the abdominal ostium of the uterine tube. The mullerian ducts pass backward lateral to the wolffian ducts; but toward the posterior end of the embryo they cross to the mesial side of these ducts and end in an epithelial eminence, the mullerian eminence on the central part of the cloaca, between the orifices of the wolffian ducts. Later they open into the cloaca at this situation.

From the mullerian ducts develops the entire internal female generative tract to the vaginal introitus. The mullerian ducts are at first solid and extend to the urogenital sinus as separate, unfused structures. The fusion of the lower half of the mullerian ducts is complete in the ninth week of fetal life, the vagina still being solid but the uterus composed of two hollow compartments. The septum of the fused walls forming the uterus disappears from below upward. This part of the canal is lined by a single layer of epithelium and has two hollow compartments, whereas the vagina is still solid, being composed of large cells rich in protoplasm. The uterine musculature develops about the fourth month.

In the fourth to the fifth month, the uterus and vagina acquire a single communicating lumen. The uterus and vagina are distinguished from each other by the formation of the cervix at the beginning of the fifth month. The hymen appears in the fifth month as a special differentiation of the lower vaginal segment and represents the remains of the mullerian eminence.

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Submitted April 6, 1954.

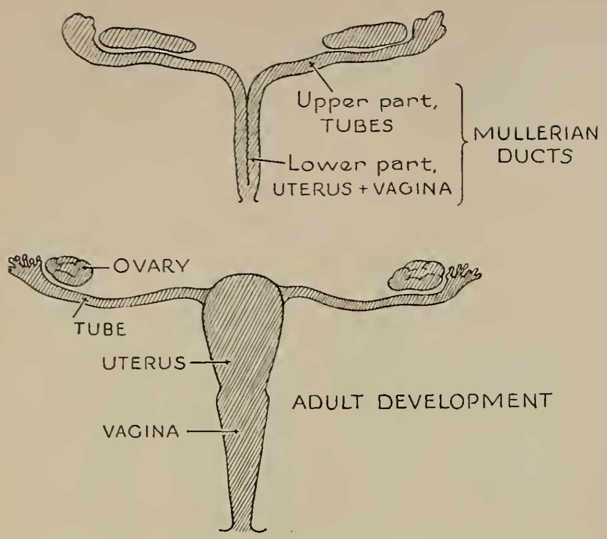

Figure 1.—Diagram of embryologic development of mullerian ducts resulting in adult internal genital organs: tubes, uterus and vagina.

Figure 1 is a diagrammatic representation of the transformation of the embryologic mullerian ducts to the adult stage of development.

METHODS OF CONSTRUCTING AN ARTIFICIAL VAGINA

Many different methods have been used for the construction of an artificial vagina, with varying degrees of success.

Rectal Transplant. Sneguireff[26] in 1892 and Gersuny[14] in 1897 apparently first utilized a segment of bowel to create an artificial vagina. Part of the coccyx was removed, 12 inches of the rectum was transposed forward to the new opening for the vagina, and the upper limb of the rectum was drawn down through the rectal sphincter.

Ileal Transplant. Baldwin[2] in 1904 described a method by which a single or double loop of bowel was brought down to the perineum to form a vagina and an end-to-end intestinal anastomosis was done to restore intestinal continuity.

There has been a definite trend away from the bowel operations toward simpler methods because of the high mortality rates reported by Masson[21] and Novals.[24]

Labial Grafts. Graves[16] in 1908 revived interest in the labial flap operation. Grafts were fashioned from the labia and sewed around a vaginal mold which was then inserted into the dissected vaginal space. There have been several modifications of this technique.[6, 8]

Thigh Graft. Beck[3] in 1900 developed the vaginal space and inserted a tube graft made from pedicle flaps from the thigh. Frank and Geist[11] modified this method and used a multiple stage procedure with full thickness grafts. Grad[15] used a similar technique in two stages.

Simple Pressure. Frank[12, 13] devised a method of creating an artificial vagina, without operation, by daily pushing of graduated tubes against the perineum. This would be an ideal method if sufficient depth could be obtained in all cases and if the patients would be completely cooperative.

Simple Reconstruction. This technique consists of merely opening the vaginal space, inserting a vaginal mold and waiting for the tract to epithelialize itself without the use of a skin graft. Wills,[27] Kanter[19] and Wharton[28] reported good results with this technique.

Wharton expressed belief that the epithelium from the urogenital sinus, forming the lowermost part of the vagina, will grow to form the artificially created vagina. However, Counsellor[5] reported cases in which this did not occur in a period of two years and grafting was required.

Free Skin Grafts. Free skin grafts were first used in 1872 by Hepper[17] and have since been reported by Flynn,[10] and Kirschner and Wagner.[20]

McIndoe and Banister[22] in 1938 reported the use of a Thiersch graft over a vulcanite mold which was left in place three to six months. They stressed the prolonged use of the mold to overcome the "contraction factor" of the new tract. Counsellor[5] reported good results with this method in 1944. Although Wharton[28] originally felt that skin grafting was unnecessary, later he favored the use of a Thiersch graft over the mold to hasten epithelization and to decrease the amount of scar formation.[29]

Miller, Willson and Collins[23] reported 17 cases. In six reconstruction was done without graft and in 11 the graft was used. They felt that the use of graft gave better results because the vagina was softer, more pliable and better epithelized than when a graft was not used. Ferris[9] also felt that a graft should be used wherever possible.

OPERATIVE PROCEDURE

Preoperative preparation should always include a study of the upper urinary tract. Because of the embryologic association of the genital and urinary tracts, congenital absence of the vagina is frequently accompanied by urinary anomalies such as pelvic kidney, solitary kidney and duplicated ureters.

The surgical technique used in the cases reported herein consisted of three steps: (1) Abdominal pelvic exploration. (2) Split thickness graft, taken from the thigh, sewed around a vaginal mold. (3) Dissection of the vaginal space, careful hemostasis and the insertion of the graft covered vaginal mold.

Abdominal pelvic exploration is done to evaluate the upper genital tract and accurately determine sex. Horn[18] raised these pertinent questions: Does the patient have normal fusion of the upper mullerian apparatus? Does she have a normal sized uterus and is it functional or could it be made to function? (If so, it should be connected with the vagina to be constructed.) Is the patient really a female, or a male with female breasts? (Cases of male pseudohermaphroditism, i.e., males with normal appearing female breasts, have been described.[4]) Or is this a case of true hermaphroditism? In order to completely and finally answer these questions of vast personal importance to the patient, abdominal exploration is recommended.

There seems to be general agreement as to the satisfactory results obtained by dissection of the space between the bladder and rectum and the maintenance of this space by the insertion of a Pyrex glass mold of the proper size. Some investigators have expressed belief that epithelium will grow up around the mold from the vulva in a short time, whereas others feel that a graft will give better results. Owens[25] stated that in light of the difficulty encountered in attempting to epithelize completely a newly formed vaginal cavity by means of a split thickness skin graft, it is not easy to understand the facility with which the entire cavity was epithelized solely by the proliferation of vaginal mucosa. Counsellor said that where epithelization does not occur in two years, grafting should be done. In the cases herein reported, grafts were used and the vagina was almost completely healed in two months. In addition, the resultant vagina was free from scarring, was soft and pliable. Fortunately, even rugal folds in the vagina were produced.

CASE REPORTS

CASE 1. A 25-year-old white woman who had never menstruated was having sexual difficulties after one month of marriage.

Although aware that not to have menses was abnormal, she had not consulted a physician but had hoped that menstruation would "some day start." The patient said she had had mild lower abdominal pains intermittently.

The body contours, breasts and distribution of hair were normal. The clitoris, the labia majora and minora and the urethra were also normal (Figure 2). No vaginal introitus or dimple could be found on careful inspection of the mucous membrane from urethra to anus. The mucosa could be forcibly invaginated a distance or no more than 1 cm. Upon rectal examination a mass 3 cm. in diameter was palpated. It was thought this might be an infantile, nonfunctioning uterus. An intravenous pyelogram showed the upper and lower urinary tracts to be normal.

A midline suprapubic incision was made and the peritoneum was opened. The bladder, rectum, tubes and ovaries were normal, as were the round, suspensory (infundibulopelvic) and uterosacral ligaments. The tubes had normal fimbriated ends laterally, but medially they ended in a "nubbin" of tissue 2 x 3 cm. in diameter on each side about 5 cm. apart (Figure 3).

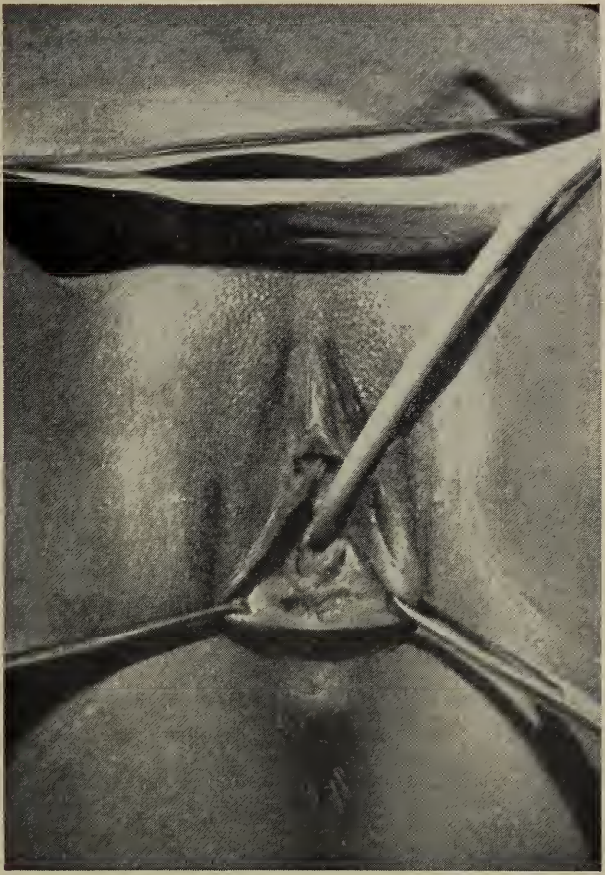

Figure 2.—Congenital absence of the vagina (Case 1) with normal clitoris, labia majora and minora and urethra.

With the abdomen open, the perineal part of the operation was done by making a transverse incision between the urethra and the rectum, after inserting a Foley catheter (see Figure 3). The space between the urethra and rectum was dissected carefully by a combination of sharp and blunt dissection until the peritoneum (identified by the hand of an assistant reaching into the peritoneal cavity and pressing from above) was reached. The abdominal incision was later closed in layers. A small amount of bleeding was controlled by pressure. The space was gradually enlarged to admit two, then three and finally four fingers; and then the vaginal mold was inserted.

With a Brown electrodermatome a split thickness skin graft was taken from the inner aspect of the thigh. The mold was removed, the graft was sewn around it "inside out," and then the graft and the mold were inserted and held in place by two heavy silk sutures to the labia (Figure 3).

There was no fever after operation. In order not to disturb the graft the patient was kept flat in bed for two weeks. The large vaginal mold produced pressure, and consequently difficulty in urination and bowel movements. (Cases have been reported elsewhere in which the mold eroded into the rectum.) The Foley catheter was removed after one week and subsequently the patient urinated spontaneously. A liquid diet was given during the first week and solid foods the second. During the second week the bowels moved spontaneously. The sutures in the mold were replaced by strings to keep the mold in place. With the graft healing nicely, the patient was permitted to go home on the sixteenth postoperative day.

Weekly examination was done in the office and each time the mold was removed and sterilized. The graft was inspected and granulating areas were touched with silver nitrate.

At the end of two months healing was complete and there was a normal appearing vaginal introitus (Figure 4). The depth and width were normal also. Biopsy of tissue from the vaginal vault in the third month showed the lining to be normal epithelium with practically no inflammatory reaction (Figure 5).

The mold was kept in place almost continuously for seven months. The patient was permitted to have sexual intercourse in the fourth postoperative month. Sex relations were reported to be satisfactory for herself and her husband.

CASE 2. A 30-year-old white woman who had been married one week said that sexual relations were unsatisfactory and that her husband, attempting coitus had injured her bladder and produced blood in the urine. She had gone to her family doctor who told her she did not have a vagina. She had been treated five years previously by the author for an unrelated minor surgical condition and had been told then that she did not have a vagina. Other physicians also had told her of the defect, but she put the problem from her mind until she married. Upon physical examination normal secondary sex characteristics were noted, and all external genitalia were normal except for absence of the vagina. An intravenous pyelogram was normal.

Construction of an artificial vagina and exploratory laparatomy were done by the technique used in Case 1. The pelvic findings were identical with those in Case 1—normal tubes and ovaries. In order to rule out true or pseudohermaphroditism, a biopsy of the gonad was taken. The report was "normal

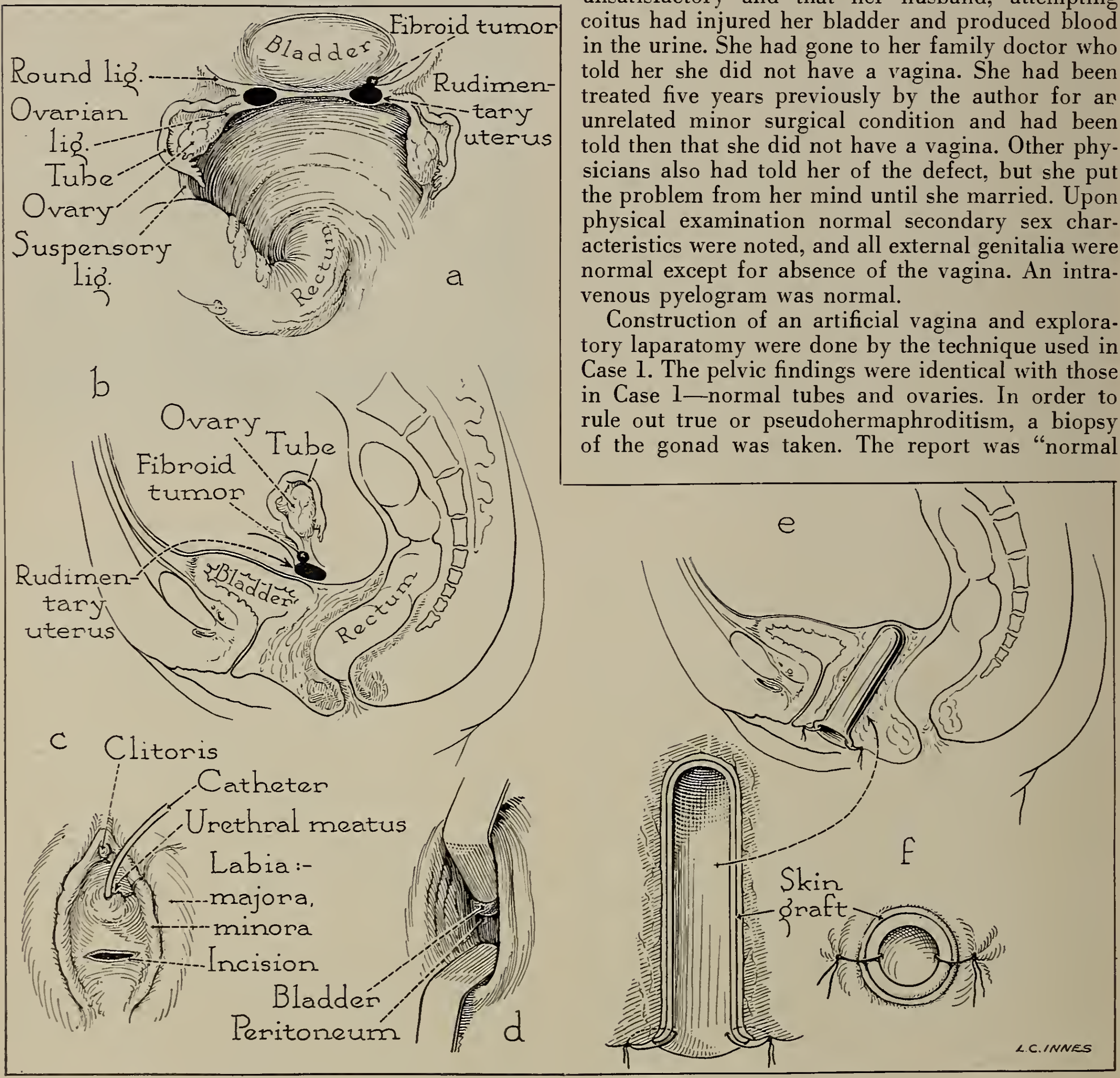

Figure 3.—Diagram showing (a) pelvic findings in both cases herein reported: Normal bladder, rectum, tubes, ovaries, round and suspensory ligaments. In both cases tubes ended in "nubbins" of tissue which proved to be rudimentary, unfused, uterus. The condition in Case 2 is shown on the right side, demonstrating a fibroid tumor on the right rudimentary uterus. (b) Midsaggital section showing absence of any evidence of a vagina. (c) Operative procedure—transverse incision made and dissection to be continued between urethra and bladder anteriorly and rectum posteriorly. (d) Dissection carried to the peritoneum. (e and f) Skin graft sewn around vaginal mold and inserted into vaginal space. Mold sutured to labia.

ovary with corpus luteum." The tubes, as in Case 1, ended in a "nubbin" of tissue, which was thought to be a rudimentary, unfused uterus. On the "nubbin" on the right side there was a nodule 0.5 cm. in diameter (Figure 3). Biopsy of tissue from the area showed the nodule to be a fibroid tumor on a rudimentary uterus.

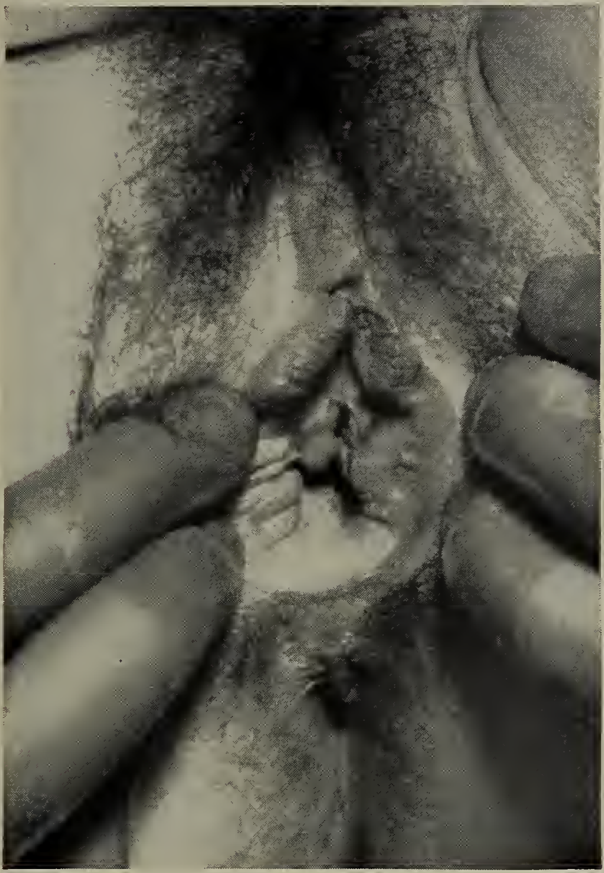

Figure 4.—Photograph (Case 1) taken two months after operation, showing normal-appearing vaginal introitus.

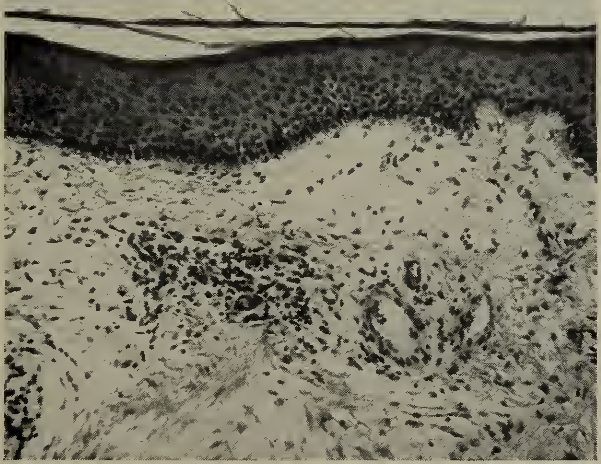

Figure 5.—Slide of biopsy specimen (Case 1) taken from vaginal vault in third postoperative month, showing lining of normal epithelium with practically no inflammatory reaction.

The postoperative course was as described under Case 1. Healing was complete at the end of two months and the vagina was of normal depth and width. The texture was practically normal, even to the presence of rugal folds (Figure 6).

Sexual intercourse was permitted in the third month and the patient reported completely satisfactory sexual relations both for herself and her husband, with orgasm.

DISCUSSION

In both the cases here presented, the stage at which arrest occurred was the same—failure of development of the lower half of the mullerian ducts. The mullerian ducts never reached the midline and the mesenchymal tissue therefore condensed about the medial ends of the tubes, resulting in "nubbins" of normal myometrial tissue—so normal, in fact, that in Case 2 a fibroid tumor had already started to grow.

There can be little doubt that had the mullerian ducts progressed just a little bit farther—until they had met in the midline—a uterus might have developed in each case. In fact, there are reports of cases in which, when the vagina was constructed, communication with the uterus was established and pregnancy resulted.[1, 30]

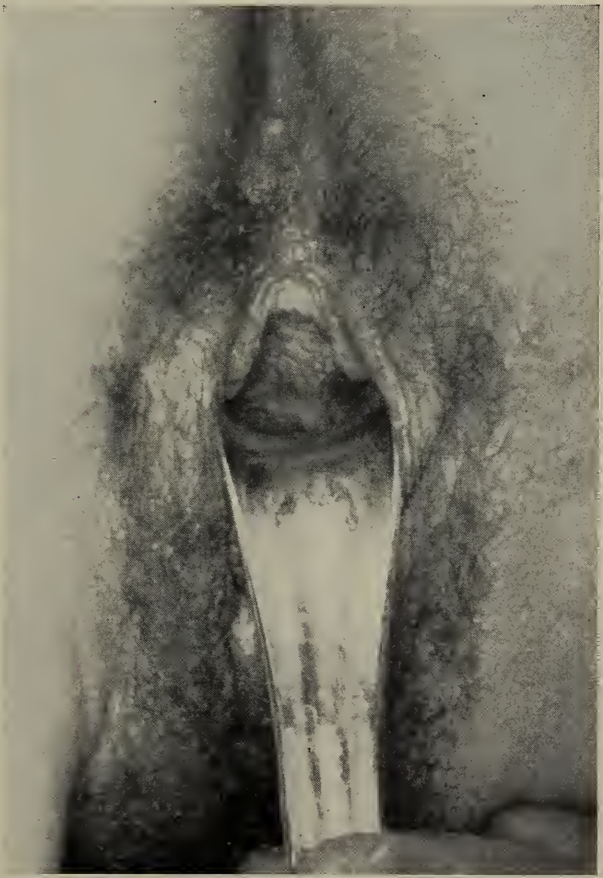

Figure 6.—View of posterior vaginal wall showing normal texture, even to the presence of rugal folds.

Since the stage of arrest of development of the mullerian ducts was identical in the two cases reported herein, the literature was reviewed on that point specifically. Six reports[31] of cases in which developmental arrest occurred at this same point were found. How often this occurs is unknown, for many of the articles did not specify and in many cases exploration was not carried out. But it is evident that this particular point of arrest must not be uncommon, which gives cause to wonder what might be the underlying mechanism.

ADDENDUM

Recently another patient was observed who had been operated on elsewhere for construction of a vagina. Urethrovaginal and rectovaginal fistulae resulted. The patient was in the hospital for three months. When the fistulae healed, the constructed vagina was badly scarred. This case is cited to illustrate the problems of keeping in the proper plane and the complications and poor results that may ensue.

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REFERENCES

1. Baer, J. L., and De Costa, E. J.: Pregnancy following operation for congenital absence of vagina, Am. J. Ob. & Gyn., 54:696, 1947.
2. Baldwin, J. F.: Formation of artificial vagina by intestinal transplantation, Am. Surg., 40:398, Sept. 1904.
3. Beck, C.: A new method of colpoplasty in a case of entire absence of the vagina, Am. Surg., 32:572, Oct. 1900.
4. Cavallero, C., and Zanardi, F.: Male pseudohermaphroditism in three siblings, Arch. Path., 55:142, Feb. 1953.
5. Counsellor, V. S., and Sluder, F. S.: Treatment for congenital absence of vagina, S. Clin. N. Am., 24:938, Aug. 1944.
6. Davis, C. H., and Cron, R. S.: Congenital absence of the vagina, Am. J. Ob. & Gyn., 15:196, Feb. 1928.
7. Engstadt (cited by Miller, Willson and Collins[23]).
8. Falls, F. H.: Simple method of making an artificial vagina, Am. J. Ob. & Gyn., 40:906, Nov. 1940.
9. Ferris, D. O.: Congenital absence of the vagina with a functioning uterus, Staff. Proc. Mayo Clinic, May 14, 1947.
10. Flynn, C. W., and Duckett, J. W.: Plastic operations for construction of artificial vagina, Surg., Gyn. & Obst., 62:753, April 1936.
11. Frank, R. T., and Geist, S. H.: Formation of artificial vagina by a new plastic technique, Am. J. Ob. & Gyn., 14:712, Dec. 1927.
12. Frank, R. T.: Formation of an artificial vagina without operation, Am. J. Ob. & Gyn., 35:1053, June 1938.
13. Frank, R. T.: Formation of an artificial vagina without operation, N. Y. State J. Med., 40:1669, Nov. 1940.
14. Gersuny, R.: Zentrabe. f. Gynäk., No. 15, 1897.
15. Grad, H.: Technique of formation of artificial vagina, Surg., Gyn. & Obst., 54:200, Feb. 1932.
16. Graves, W. P.: Gynecology, first edition, W. B. Saunders Co., Philadelphia, 1916.
17. Heppner (cited by McIndoe and Banister[22]).
18. Horn, P.: Surgical construction of an artificial vagina, Ann. West. Med. & Surg., 4:591, Oct. 1950.
19. Kanter, A. E.: Congenital absence of the vagina, Am. J. Surg., 30:344, Nov. 1935.
20. Kirschner, M., and Wagner, G. A. (cited by Barrows, D. N.) : Kirschner-Wagner operation for construction of artificial vagina, Am. J. Ob. & Gyn., 31:156, Jan. 1936.
21. Masson, J. C.: Congenital absence of vagina and its treatment, Am. J. Ob. & Gyn., 40:915, Nov. 1940; Am. J. Ob. & Gyn., 24:583, Oct. 1932.
22. McIndoe, A. H., and Banister, J. B.: Operation for cure of congenital absence of the vagina, J. Ob. & Gyn. British Empire, 45:490, June 1938.
23. Miller, N. F., Willson, J. R., and Collins, J.: Surgical correction of congenital aplasia of the vagina, evaluation of operative procedures, end result and functional activity of the transplanted epithelium, Am. J. Ob. & Gyn., 50:735, Dec. 1945.
24. Novak, E.: Am. J. Ob. & Gyn., 40:916, Nov. 1940.
25. Owens, N.: Simplified method for formation of an artificial vagina by split skin graft, Surgery, 12:139, July 1942.
26. Sneguireff, W. F.: Meditsine, St. Petersburg, 4:138, 1892.
27. Wells, W. F.: Plastic operation for congenital absence of the vagina, Am. J. Surg., 29:253, Aug. 1935.
28. Wharton, L. R.: Simple method of constructing a vagina, Am. Surg., 107:842, May 1938.
29. Wharton, L. R.: Difficulties and accidents encountered in construction of artificial vagina, Am. J. Ob. & Gyn., 51:866, June 1946.
30. Whittemore, W. S.: Pregnancy following operation for congenital absence of vagina, Am. J. Ob. & Gyn., 44:516, 1942.
31. Masson, J. C.: Congenital absence of vagina and its treatment, Am. J. Ob. & Gyn., 24:583, Oct. 1932. Flynn, C. W., and Duckett, J. W.: Plastic operations for construction of an artificial vagina, Surg., Gyn. & Ob., 62:753, April 1936. Cowles, A. G.: Vaginal agenisis, Texas State Med. J., 35:685, Feb. 1940. Falls, F. H.: A simple method of making an artificial vagina, Am. J. Ob., 40:906, Nov. 1940. Sadler, L.: Management of congenital absence of vagina, J. Oklahoma St. Med. Assn., 34:382, Sept. 1941. Horn, P.: Surgical construction of artificial vagina, Ann. West. Med. & Surg., 4:591, Oct. 1950.

CASE REPORTS

Severe Hypotensive Reaction to Oral Chlorpromazine Therapy

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SINCE 1951 Thorazine® (chlorpromazine) has been experimentally studied and extensively used clinically.[6,7] It has been reported extremely effective in preventing or controlling nausea and vomiting in many conditions,[1,3,4,5,10] in relieving various psychic disorders through tranquilizing effects[2,10,11] and for diminishing pain.[10,11]

Certain undesirable but relatively inconsequential and transient reactions have been noted clinically—drowsiness, minor gastrointestinal disturbances, dryness of the mouth, dizziness, tachycardia and headache. Other effects of greater concern have been severe and prolonged jaundice of obstructive type and hypotension. Neither has resulted in a reported fatality, but the authors recently observed a patient who had prolonged and gravely severe hypotensive reaction from four 25 mg. doses of this drug by mouth.

Moyer and associates[8,9] observed moderate hypotensive responses to Thorazine in dogs in parenteral doses of 0.1 to 0.5 mg. per kilogram of body weight. There was a uniform severe fall in blood pressure in doses of 10 mg. per kilogram, presumably largely due to peripheral vasodilatation, but likewise associated with decreased cardiac output. Atropine did not block this reaction. In the clinical cases studied there was a 12 per cent incidence of hypotension after administration of Thorazine. In most patients the fall was mild and transient, lasting but a few minutes, but in seven patients the blood pressure fell by from 30 to 60 mm. of mercury after intramuscular administration. In three of these cases the pressure fell to 90/60 mg. of mercury. Other investigators reported similar reactions. Winkelman[11] reported a fall in blood pressure in seven of eight patients ranging from 5 to 60 mm. of mercury systolic, and from 5 to 25 mm. diastolic. The greatest decreases occurred in patients with hypertension, and the use of Thorazine as a therapeutic agent has been suggested for this condition. Occasional episodes of dizziness, tachycardia, postural hypotension and in some instances transient syncope have been reported. However, in all these reports spontaneous recovery occurred in from one-half to three hours with no serious or prolonged sequelae resembling severe clinical shock.

The following case is presented because it is believed to be an example of a critical shock-like state attributable to oral administration of Thorazine.

REPORT OF A CASE

A 71-year-old white male was admitted to hospital with complaints of fever, malaise, increased cough and hoarseness, anorexia, insomnia and psychic irritability of three days' duration. He had been under care for the six preceding years for emphysema and chronic and acute recurrent bronchitis. Four years previously he had had acute myocardial infarction, from which he recovered uneventfully. Three months before the present admission he had received roentgen therapy for squamous cell carcinoma of the esophagus and although clinically and roentgenographically the lesion was resolved, a preexisting productive cough was exaggerated. Five weeks before the present admittance the patient was hospitalized with bronchitis and pneumonitis of the left lower lobe, and a diagnosis of radiation-induced pulmonary fibrosis was also made. The blood pressure at that time ranged from 120/72 mm. to 130/78 mm. of mercury.

On the present admission similar diagnoses were made. The maximal oral temperature was 39.4° C. the day prior to admission. Upon physical examination musical bronchial rales were noted. The blood pressure was 96/70 mm. of mercury, the pulse rate 120 per minute, the temperature 38.2° C. and respirations 36 per minute. Mild hypochromic anemia was the only abnormality noted in laboratory tests. The patient was given 600,000 units of penicillin and 0.5 gm. of streptomycin intramuscularly twice daily, and Pyribenzamine,® 50 mg., four times daily by mouth. On the third day, erythromycin, 200 mg. twice daily was given orally, and the penicillin and streptomycin were discontinued. The daily rectal temperature fluctuated between 37° C. and 38.2° C. for the next six days. Crepitant rales in the left lower lobe developed on the second hospital day.

By the sixth hospital day, the patient had less malaise and cough, and the rales in the left lung cleared. During this period the blood pressure varied from 108 to 140 mm. of mercury systolic and 50 to 66 mm. diastolic. Anorexia, insomnia and psychic irritability persisted with increased restlessness. The patient refused meals and attention, and in an attempt to control the mental irritability, Thorazine

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Submitted November 1, 1954.

was given orally in a 25 mg. dose at 5:30 p.m. on the sixth hospital day. The patient slept well that night, and the next morning (the seventh hospital day) was less restless and had improved appetite. At 10 a.m. the blood pressure was 134/66 mm. of mercury. Thorazine was administered as follows: a 25 mg. tablet at 8:30 a.m., another at 12:30 p.m., and another at 5:30 p.m. that day. Twice during the day when the patient sat in a chair for about 15 minutes he complained of faintness, but the blood pressure was not determined at those times. About 2:30 p.m. he had a transient episode of tachycardia and tachypnea when sitting up, which was promptly relieved by reclining. The evening was spent quietly in bed, and at 9:00 p.m. the patient was comfortable with a pulse rate of 94 and respiratory rate of 36 per minute. At 9:30 p.m. with the patient semireclining in bed the blood pressure was 104/60 mm. of mercury but at 9:50 p.m. he complained of weakness and the blood pressure was 74/40 mm. Respirations were 40 per minute and the pulse rate 130 per minute. The patient's color and skin temperature remained good throughout, and the only other complaint was of tingling in the hands. Five milligrams of Neo-synephrine was given intravenously, and in 10 minutes the systolic blood pressure rose to 180 mm. of mercury; after another ten-minute interval it was 85 mm. Oxygen was given nasally and l-norepinephrine therapy by intravenous drip was started. An electrocardiogram taken at this time showed sinus rhythm with a rate of 100, and minor T and S-T deviations from the normal not significantly different from those in a tracing taken three months earlier revealing the fixed residual findings resulting from the anterior myocardial infarction of 1950. The leukocyte content was 10,700 per cu. mm. of blood at 10:30 p.m. with normal differential.

For the next day and a half the systolic blood pressure was maintained between 92 and 110 mm. of mercury by intravenous administration of l-norepinephrine solution in a concentration of 4 mg. per liter at a rate of flow of 12 to 20 drops per minute. Any attempt to lower the dosage resulted in a fall of systolic blood pressure to between 70 and 80 mm. of mercury. An electrocardiogram taken on the seventh day showed the cardiac rate at 89 per minute but no other changes. At 4 p.m. of the seventh hospital day the patient was erroneously given an additional 25 mg. tablet of Thorazine by mouth. At 4:30 p.m. there was a decrease in blood pressure to about 70/50 mm. of mercury and for three hours when weaning from l-norepinephrine was attempted the blood pressure would fall to this level. In about four hours the rate of drip of the l-norepinephrine solution (4 mg. per liter) necessary to maintain systolic blood pressure over 90 mm. of mercury had to be increased from 10 drops per minute to 42 drops per minute. Concentration of l-norepinephrine was then increased to 8 mg. per liter, permitting reduction of the rate of drip required to maintain systolic blood pressure between 90 and 110 mm. to 20 drops per minute. Since the hypotensive state had persisted 24 hours and for 6 hours after the accidental dose of Thorazine, 200 mg. of hydrocortisone was given by mouth in an attempt to sensitize the vasopressor system. Four hours later an additional 100 mg. of hydrocortisone was given by mouth, and then 25 mg. at four-hour intervals for four doses daily. Within 12 hours of the start of hydrocortisone therapy the blood pressure was stabilized at about 120/70 mm. of mercury without the aid of l-norepinephrine, and remained at about that level. Hydrocortisone was continued at 25 mg. orally in three doses daily and the patient was discharged from the hospital four days later free of symptoms except for a mild cough.

An electrocardiogram taken 12 days after admission showed sinus rhythm, a rate of 100 per minute, occasional ventricular premature beats and the fixed residual findings of the anterior myocardial infarction of four years before but recovery from the findings (on the sixth hospital day) of the depression of S-T segments which had suggested transient subendocardial hypoxia. There was no other significant change from previous records. At no time was there pain in the chest, dyspnea, peripheral edema or pulmonary edema. No pericardial rub or changes in cardiac sounds were heard. After cessation of all medications except hydrocortisone and auxiliary potassium in daily doses of 4 gm., the patient did exceptionally well and was discharged on the twelfth hospital day.

COMMENT

A case is reported of severe and prolonged hypotension following four 25 mg. oral doses of Thorazine. Administration of l-norepinephrine by vein for a day and a half was required to maintain effective arterial blood pressure. Intensive oral hydrocortisone therapy in addition may have contributed to the patient's recovery. The accidental administration of an additional oral dose of 25 mg. of Thorazine given 18 hours after onset of hypotension seemed to intensify the hypotensive reaction.

ADDENDUM

Since the above report was prepared, an article has appeared summarizing seven more cases of severe hypotension due to Thorazine,* including one in which the patient died.

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REFERENCES

1. Cook, L., and Toner, J. J.: The antiemetic action of Chlorpromazine, SKF 2601A (RP-4560), Abst., J. Pharmacol. & Exper. Therapy, 110:12, 1954.

2. Cummins, J. F., and Friend, D. G.: Use of Chlorpromazine in chronic alcoholics, Am. J. Med. Sci., 227:561, 1954.

3. Friend, D. G., and Cummins, J. F.: A new antiemetic drug, J.A.M.A., 153:480, 1953.

4. Kent, B., Knight, R., Morris, G., Dixon, M., and Moyer, J. H.: Clinical observations on the use of Chlorpromazine as an antiemetic agent, M. Rec. and Ann., 48:758, 1954.

---

*Rea, E. L., Shea, J., and Fazekas, J. F.: Hypotensive action of chlorpromazine, J.A.M.A., 156:1249, Nov. 27, 1954.

5. Knight, R. W., Kent, B., Morris, G., and Roger, S.: Clinical studies of an antiemetic agent, Chlorpromazine, J. Lab. and Clin. Med., 42:828, 1953.

6. Laborit, H., Huguenard, P., and Alluane, R.: Un Nouveau Stabilisateur Vegetatif, Presse Mèd., 60:206, Feb. 13, 1952.

7. Laborit, H., and Huguenard, P.: L'hibernation artificielle par moyens Pharmacodynamiques et Physiques, Presse Mèd., 59:1329, Oct. 1951.

8. Moyer, J. H., Kent, B., Knight, R., Morris, G., Huggins, R., and Handley, C. A.: Laboratory and clinical observations on Chlorpromazine. Hemodynamic and toxicological studies, Am. J. Med. Sci., 227:283, 1954.

9. Moyer, J. H., Morris, G., Handley, C. A., Kent, B., and Mathews, W.: Observations on an effective antiemetic—Chlorpromazine, pamphlet, Houston, Texas, June 1954.

10. "Thorazine" Series on clinical uses of Thorazine. Pamphlets from the Smith, Kline and French Laboratories, Philadelphia, 1953 and 1954.

11. Winkelman, N. W., Jr.: Chlorpromazine in the treatment of neuropsychiatric disorders, J.A.M.A., 155:18, 1954.

Psychosomatic Leukorrhea

Report of a Case

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VAGINAL LEUKORRHEA is a common gynecologic complaint. Common causes include infections of the vaginal tract, such as those caused by *Tr. vaginalis*, *Monilia albicans*, and *N. gonorrhea*, and inflammations of the cervical and endocervical areas. Neoplasms must be considered. Psychic causes, however, do not seem to be commonly listed among etiologic factors. It is well known that erotic stimulation can cause leukorrhea of at least a temporary nature, and it follows that the psyche may cause this condition. Following is a report of a case of persistent leukorrhea, caused by psychic conflict, which almost escaped detection because of several complicating factors.

REPORT OF A CASE

The patient, a 28-year-old, white, married woman was first observed for a routine prenatal examination. She had been married for about two years and the pregnancy was her first. She said that another physician had told her she had a "contracted pelvis" and that she might have to undergo uterine section for delivery. She added that the physician also had treated her for a troublesome vaginal discharge and that nothing he prescribed had given relief. The discharge was described as thick, white, non-irritating, not foul, but copious enough to necessitate wearing a pad.

She said that she and her husband were compatible in all respects and that intercourse was satisfactory. Throughout the history, examination and subsequent visits, the patient always maintained an air of sophistication coupled with complete candor in discussing matters of sex.

The patient was in about the seventh month of gestation. The pelvic outlet was moderately narrowed in the transverse diameter. The vaginal vault contained an excessive amount of mucus, but no cause for this was found except the pregnancy. A hanging drop preparation was negative for *Tr. vaginalis*. No pathogenic organisms were seen on examination of smears of material from the urethra.

The patient was advised that uterine section probably would not be necessary, since the fetus was small, and that the vaginal discharge probably was physiologic, even though it was more copious than usual. She was instructed, however, to use Floraquin® suppositories nightly in an effort to reduce the secretions.

At the next visit two weeks later the patient was distressed because the discharge had not lessened. She said that coitus had been rather painful for her lately, and that the vagina seemed to be rather "small," with actual friction causing the pain. Her husband, she added, was very considerate and always took time enough to stimulate her prior to the conjugal act. Instructions were given the patient to refrain from further contact insofar as intercourse, douches, etc., were concerned, since the time of delivery was so near. Just before time for the patient's next visit, the patient's husband telephoned that his wife was having considerable gastric distress. Upon examination it was found that the distress was in fact labor. The patient was admitted to hospital and, with midline episiotomy, was quickly delivered of a viable male baby weighing 5 pounds 6 ounces and estimated to be a month short of term. Mother and baby did well during the hospital course and the puerperium was uneventful. At examination six weeks after delivery, involution seemed complete, with good healing at the site of episiotomy. Some Nabothian cysts of the cervix were noted but they were not treated at the time. The patient continued to complain of leukorrhea and occasional dyspareunia but no physical cause could be found. On a subsequent visit cautery was used to treat the cysts, and the endocervix was cauterized by the bi-active coagulation electrode technique on three occasions. A hemorrhage occurred from the site of one of the cauterized cysts about ten days later and additional cauterization was necessary to stop it. Normal menstruation was soon resumed but the patient still complained of leukorrhea and moderate dyspareunia. Acid douches and antiseptic suppositories did not help, nor did the use of lubricating jelly.

With the patient's consent, the husband was interviewed. He was pleasant and intelligent but, concerned over his wife's condition, he considered sending her to a medical center for further study and treatment. Encouraged to speak of his wife and her background, he said that she had begun to have leukorrhea the day they were married, even though, because of moving and other circumstances, they had not had intercourse until a week later. He had never felt that his wife had enjoyed the act, even though her libido seemed adequate; he doubted that she had had more than a few orgasms during the course of their marriage. She was of a typical middle class family of "working people," never in want and never in luxury. The parents were good enough to the

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Submitted May 29, 1954.

daughter, but they did not share intimacies or discuss matters relating to sex, nor did they encourage the girl to develop normal relationships with boys. There were no brothers. Dates were infrequent; she had not gone out with men at all until after graduation from high school. She had been frightened by some of the advances that were made to her by various men. and her husband felt that she was very naive regarding men and the actual mechanics of sex.

The husband was asked to have a thorough talk with his wife and to send her back for additional talks with the author. Subsequently all the facts related by the husband were confirmed. Asked why she had not spoken of these matters before, she merely said that she had not considered the facts important enough to tell. In the course of a few talks, she gained insight into her problem—that she had actually feared sex and the sex act, and that leukorrhea was actually a defense against it. Care was taken not to offer this explanation to the patient until she herself suggested it. Leukorrhea thereupon dramatically ceased, as did dyspareunia.

COMMENT

At the time the present report was being written, the author conferred with various physicians regarding psychosomatic leukorrhea. Most gynecologists consulted agreed that it was a common condition but spontaneously stated that the cause was often not discovered. It would seem, then, that psychic factors should always be considered in the complaint of leukorrhea.

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Nontuberculous Giant Lung Abscess Complicating Tuberculous Bronchostenosis

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A TUBERCULOUS CAVITY occupying most of or an entire pulmonary lobe is not a very rare phenomenon; neither is a nonspecific abscess of similar dimensions. However, a giant abscess occupying the entire upper lobe and developing subsequent to and beneath an adequate thoracoplasty is uncommon, especially when unaccompanied by either symptoms, signs or x-ray findings of an abscess. Such a case constitutes the subject of this report.

CASE REPORT

The patient, a 34-year-old woman, had had pulmonary tuberculosis diagnosed at the age of 18 in the course of a routine survey at school in 1937. Upon x-ray examination minimal infiltration was noted in both upper lobes. During residence of the patient in sanatoria from 1937 to 1949 no definite evidence of cavitation was found; except for the formation of a dense nodular lesion at the level of the left second anterior intercostal space, there was progressive clearing of the parenchymal lesions in both lungs as late as 1941. Left phrenic crush was performed in 1939 and an anatomically inadequate pneumothorax on the left was maintained from 1941 to 1943.

In 1942 symptoms of tuberculous tracheobronchitis were noted and sputum was found to be positive for tubercle bacilli for the first time. Repeated bronchoscopy in the course of the next few years revealed extensive tuberculous ulceration of the trachea and left bronchus which went on to healing by stenosis of the left stem bronchus. At the same time roentgenograms showed atelectasis of the left upper lobe (Figure 1, *left*). In 1948 three-stage, seven-rib left thoracoplasty was performed. Thereafter there was atelectasis of the entire lung (Figure 1, *right*) and the sputum remained positive on culture.

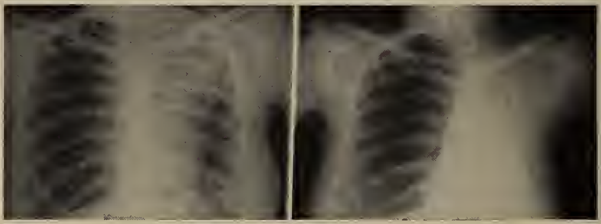

Figure 1.—*Left:* Roentgenogram (Nov. 24, 1947) showing atelectasis of the left upper lobe. *Right:* (Dec. 22, 1948) An anatomically satisfactory thoracoplasty but also atelectasis of the entire left lung.

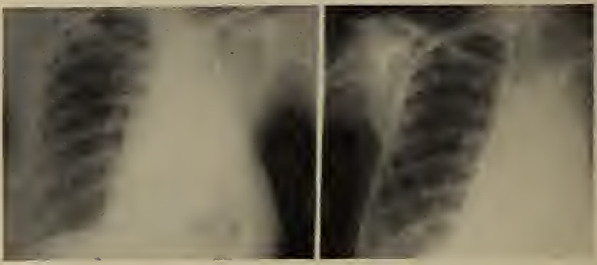

Figure 2.—Roentgenograms shortly before (*left*) and after (*right*) pneumonectomy, showing an almost identical appearance.

When the patient was first observed at the Mount Sinai Clinic in 1953, upon review of the roentgenograms no evidence was seen of tuberculous activity since the date of thoracoplasty in 1948 (Figure 2, *left*). At this time there was no growth on culture of three specimens of sputum. The patient said she had had episodes of low-grade fever, pains in the chest and increase in cough over the preceding three years without purulent sputum at any time.

A diagnosis of "destroyed" lung due to atelectasis and bronchiectasis resulting from healed broncho-

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Submitted April 12, 1954.

stenosis was made. Left pneumonectomy was carried out October 19, 1953, with the patient in the lateral position. In freeing the lung from its extensive parietal attachments it was noted that the lower lobe was shrunken but the upper was greatly distended and felt tense. In the course of manipulation the upper lobe was accidentally damaged and creamy pus escaped from it into the pleural cavity. It was considered wiser to evacuate the entire contents of the lobe (200 to 300 cc.) than to repair the tear in the lung and run the risk of flooding the tracheobronchial tree with liquid contents of the giant pulmonary abscess. At no time during the operation were pleural contents recovered from the trachea by the anesthetist, nor was there escape of air from the pulmonary abscess, which indicated complete isolation of the abscess from the tracheobronchial tree. The stem bronchus was extremely stenotic and required little in the way of repair. Postoperative recovery was uneventful (Figure 2, *right*).

Upon pathologic examination* of the surgical specimen (Figure 3) it was noted that the lower lobe was contracted and moderately bronchiectatic. The upper lobe consisted of a thin-walled trabeculated pus sac with only a very small area of tightly compressed pulmonary tissue near the hilum. The stem and upper lobe bronchi were extremely stenotic and one of the segmental branches was completely obstructed by old fibrosis.

It was noted that in sections through the site of bronchial occlusion the lumen was filled with connective tissue which in places was almost collagenous; there were only a few remnants of bronchial mucosa and glands. Degenerated tissue lined by fibrous wall was observed in sections through the wall of the cavity of the abscess. Sections through the lower lobe showed only pronounced atelectasis. No definite evidence of tuberculosis was found in any of the sectioned tissue. No pyogens or tubercle bacilli were observed on smears of the purulent contents of the abscess, and no tubercle bacilli grew on cultures of the material.

COMMENT

The interesting feature of the case here reported is the unexpected finding of a giant abscess occupying a completely excavated pulmonary lobe adequately collapsed by thoracoplasty five years earlier. Gradual accumulation of secretions distal to the completely obstructed upper lobe bronchus resulted in pressure that caused necrosis of pulmonary parenchyma with eventual conversion of the lobe into a pus sac. Regardless of whether or not this type of lung abscess can be diagnosed preoperatively, the fact that Lindskog and Liebow[1] put it last on a list of lesions associated with tuberculous bronchostenosis suggests that the incidence is rather low.

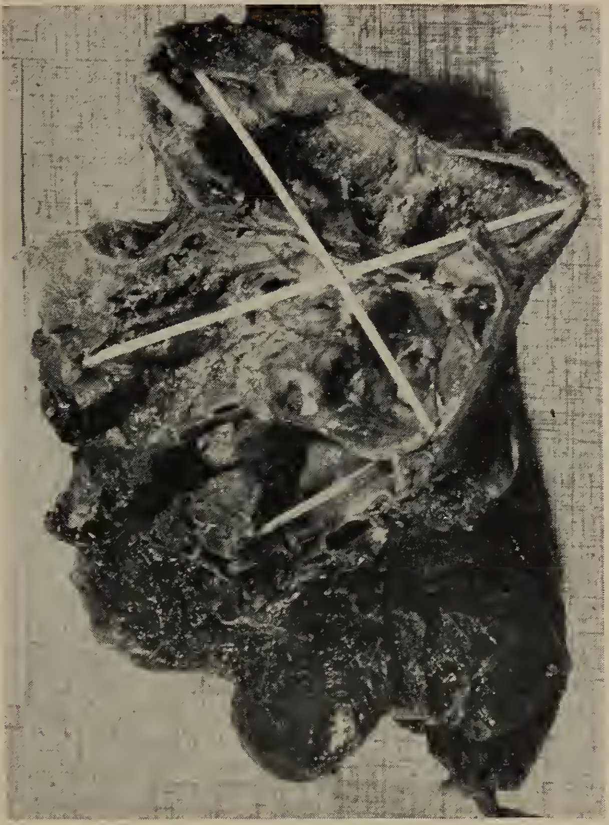

Figure 3.—Fixed gross specimen showing the inner aspect of the excavated upper lobe following evacuation of purulent contents and the compressed lower lobe. Bronchi are extremely stenotic.

SUMMARY

An uncommon nontuberculous complication of healed tuberculous bronchostenosis is reported in a patient who 16 years earlier had only minimal parenchymal disease but in whom extensive ulceration of the trachea and left bronchus developed later. Collapse therapy was carried out but the sputum remained positive for tubercle bacilli. A preoperative diagnosis of "destroyed" lung due to healed tuberculous bronchostenosis was made and pneumonectomy performed.

Unexpectedly the resected lung was found to consist of a completely excavated and distended upper lobe containing creamy pus and a shrunken moderately bronchiectatic lower lobe. The upper lobe bronchus was completely obstructed by the healed tuberculous process. Histologic and bacteriologic examination disclosed no evidence of tuberculosis in the bronchus, parenchyma or the purulent contents of the lung abscess.

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REFERENCE

1. Lindskog, G. E., and Liebow, A. A.: Thoracic Surgery and Related Pathology, 1st ed., Appleton-Century-Crofts, Inc., New York, 1953, pp. 200-202.

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*By Irving Matoff, M.D.

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EDITORIAL

Allergy Skin Testing

The skin test has been a most important functionary in the evolution of the subject of allergy. Since the development of the scratch and intracutaneous tests as diagnostic procedures in hereditary forms of hypersensitivity, allergists have come to appreciate their importance and their limitations. The skin test is, at best, a relatively crude diagnostic technique which, although simple to carry out, is subject to many pitfalls. Considerable experience is necessary for the appraisal of reactions obtained with it.

The scratch and the intracutaneous techniques are the methods most generally employed in testing for allergy of the hereditary type. The scratch test is performed by gently rubbing allergenic material into a superficial skin scratch. The intracutaneous test is done by introducing a previously calculated amount of allergen into the superficial layers of the skin. Both procedures have their limitations and advantages. The scratch technique is fairly simple and inexpensive and diminishes the likelihood of constitutional reactions that are liable to occur with careless and inexperienced use of the intracutaneous method. On the other hand the intracutaneous test is more sensitive than the scratch test and is, accordingly, a more effective diagnostic procedure. A decided advantage of the intracutaneous method is its adaptability and flexibility. The testing allergens may be varied in concentration to suit the need of each patient. The same materials used for testing may be employed also for desensitization treatment.

Many modifications of the scratch and the intracutaneous tests are being used. Some allergists recommend and employ the puncture test which is conducted by needle puncture through a drop of allergen. Others, as a variation of the scratch technique rotate the end of a fine narrow borer or screw driver on the skin and then rub allergen into the slightly abraded area. Another method is to mix the allergen with a vehicle that readily penetrates the skin and then gently rub it in. Still another and more novel technique is the introduction of an allergen into the skin by electrophoresis. However, in all these procedures the same immunologic principles apply, and the various techniques have been derived simply to satisfy the particular needs and preferences of the investigator. Most clinicians concentrate on one technique, and perfect it to a point where it provides for them more information than would be obtained with the less skillful application of several methods.

Many factors, nonspecific and immunologic, contribute stumbling blocks to a neophyte in the interpretation of the clinical significance of cutaneous reactions: the skin reactivity of each person differs from that of others; the skin reactivity differs from place to place on the skin of each person; the skin reactivity fluctuates with age and may be suppressed in certain diseases; the skin reactivity is influenced by the concentration and amount of allergen employed; the cutaneous reaction may result from different immunologic mechanisms in the same person and vary in clinical significance; and the cutaneous reactions in different persons may be produced by the same immunologic mechanism but be of unequal importance.

In the hereditary group of allergic diseases the cutaneous reactions obtained by testing with allergens are almost always mediated by the skin-sensitizing antibody which is present in both blood and tissues. An outstanding feature of the skin-sensitizing antibody is its affinity for the skin and the mucous membranes. Passive sensitization of respiratory, gastrointestinal, and ophthalmic mucous membranes may be as easily accomplished as the passive sensitization of skin. There is, therefore, sound reason for cutaneous testing in allergic diseases of the hereditary type, even though the symptoms are derived from the mucous membranes and not the skin.

Cutaneous tests yield the most satisfactory results in allergic disorders of the respiratory tract in which inhalant allergens (pollens, dusts, danders, molds) play the most important role. In patients with allergic intrinsic dermatitis, migraine, and gastrointestinal allergic disease—conditions in which foods are likely to play some etiologic role—the skin tests, although less reliable, have contributed enough information with sufficient frequency to make them a necessary diagnostic procedure. In patients with drug sensitivities, chronic urticaria, and vernal conjunctivitis, skin testing is disappointing.

The diagnosis of allergic diseases is not a function of a laboratory technician who possesses and uses a set of diagnostic allergens. Unfortunately, for the sake of good medical practice and the welfare of the unsuspecting patient, clinical laboratories offering skin testing services to determine allergic sensitivity are still in existence. The services of most of these laboratories are rendered without the supervision of a certified specialist in allergy or a licensed physician who has had adequate special training in allergy. Skin tests, even when performed under the best of conditions, entail risks of severe or fatal reactions. These risks are curtailed to a point of insignificance when the tests are performed under the supervision of a physician who is familiar with the patient's history and physical status. More important still is the need of training and knowledge to wisely interpret the results of the tests.

The establishment of certification of specialists in allergy under the American Board of Internal Medicine indicates the belief of representative national organizations that the diagnosis and treatment of allergic disorders require considerable training and skill. Even though a physician experienced in allergy may not have fully met the requirements of certification, he is able to offer to his patient a standard of service that cannot be approached by any laboratory. A diagnosis of an allergic disease based on the shallow security of a slight, questionable positive reaction to skin test, rather than the thorough appraisal of the patient as an entity, leads to inaccuracy in diagnosis and to ineffectual treatment.

LETTERS to the Editor . . .

THE DEVELOPMENTS of medicine in California during the last quarter century reflect in no small part the growth and vigor of the State Medical Association—a growth of sweeping dimension which called for sound legal guidance and advice during many decades. The fact that such guidance and advice was ably given is evident to all who pause to look. Our thanks go forth to Hartley Peart.

To catalog the work of Mr. Peart on behalf of medicine would take more time and space than is at my disposal. Only those who have prepared for and sat through long Council meetings lasting often from Friday evening to late Sunday night, long Executive Committee meetings called at almost any day and hour, House of Delegates sessions that spanned the clock, court-room sessions on medical problems that saw whole weeks go by, and endless legislative hearings in the State Capitol—only they have any concept of the arduous tasks he and his associates have performed.

The record of our state in medical leadership is his testimonial. May I voice the feelings of myself and many colleagues in placing on record this small tribute to his memory and the part he played so long and ably in the molding of our professional destiny. We are indeed fortunate that his able and modest associates are still at our legal helm. To Mr. Hassard, Mr. Smith and their staff our sympathy and appreciation.

Yours very truly,

L. H. GARLAND, M.D.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Executive Committee Minutes

Tentative Draft: Minutes of the 245th Executive Committee Meeting, San Francisco, November 17, 1954.

The meeting was called to order by Chairman Heron in Room 214 of the St. Francis Hotel, San Francisco, at 4:30 p.m., Wednesday, November 17, 1954.

Roll Call:

Present were President Morrison, Council Chairman Lum, Speaker Charnock, Auditing Committee Chairman Heron, and, ex-officio, Secretary Daniels and Editor Wilbur. Absent for cause, President-elect Shipman.

A quorum present and acting.

Present by invitation during all or a part of the meeting were Messrs. Hunton, Thomas, Clancy and Gillette of C.M.A. staff; legal counsel Howard Hassard; Health Insurance Consultant Rollen Waterson; Drs. Dwight H. Murray, James C. Doyle and Dan O. Kilroy, members of the Committee on Public Policy and Legislation; Messrs. Ben H. Read and Eugene Salisbury of the Public Health League of California; Dr. Murray Hunter Brown of Los Angeles County; Dr. Richard A. Young, medical consultant to the California State Department of Vocational Rehabilitation; William S. Smith, D.D.S., Robert O. Schraft, D.D.S., E. L. Hicok, D.D.S., and Messrs. Anthony J. Kennedy and John Rooks, representing the California State Dental Association.

1. *A.M.A. Committee on Rural Health:*

On motion duly made and seconded, it was voted to approve the recommendation of President Morrison that Dr. Henry A. Randel of Fresno be nominated for membership on the Council on Rural Health of the American Medical Association, to succeed the late Dr. J. Frank Doughty.

2. *Rollen Waterson Associates:*

(a) Mr. Waterson stressed the need to develop adequate health insurance coverage for individual subscribers, to meet competition and to lead the way in this field.

On motion duly made and seconded, it was voted to urge strongly to the Board of Trustees that it use all possible efforts to develop and improve its individual membership coverage so as to make it more highly acceptable to the public.

(b) Mr. Waterson reported the findings of a spot survey to determine the number of members of closed-panel groups who sought medical care from their personal physicians at their own expense. He also reported that a pilot study of public opinion of the medical profession was under way.

(c) A budget covering the final calendar quarter of 1954, totaling $15,323, was approved, with the provision that $2,000 additional be allowed for producing and distributing tape recordings for playing before hospital staffs throughout the state.

3. *University Programs:*

Dr. Murray Hunter Brown of Los Angeles County presented information on programs being undertaken by a state university through some of its departments and it was agreed that members of the

ARLO A. MORRISON	President
SIDNEY J. SHIPMAN, M.D.	President-Elect
DONALD A. CHARNOCK, M.D.	Speaker
WILBUR BAILEY, M.D.	Vice-Speaker
DONALD D. LUM, M.D.	Council Chairman
ALBERT C. DANIELS, M.D.	Secretary-Treasurer
IVAN C. HERON, M.D.	Chairman, Executive Committee
DWIGHT L. WILBUR, M.D.	Editor
JOHN HUNTON	Executive Secretary

General Office, 450 Sutter Street, San Francisco 8

ED CLANCY	Director of Public Relations

Southern California Office:
417 South Hill Street, Los Angeles 13 • Phone MAdison 6-0683

Executive Committee should use their efforts to determine what other organizations or groups might be similarily concerned with the direction of such activities.

4. *California Medicine:*

Editor Wilbur requested an opinion as to whether or not CALIFORNIA MEDICINE should devote all or a large part of one issue to a discussion of medical topics concerned with civil defense. On motion duly made and seconded, it was voted to recommend to the Editor that one issue of the journal should be devoted to such subjects, at the discretion of the Editor.

5. *California State Board of Nurse Examiners:*

On motion duly made and seconded, it was voted to request the Council Chairman to forward to the California State Board of Nurse Examiners the names of four nominees for the appointment of two such nominees to the Advisory Council to this Board.

6. *State Board of Medical Examiners:*

Suggestions for nominees for appointment to the State Board of Medical Examiners were considered and it was agreed to refer this matter to the Council.

7. *Legal Department:*

Mr. Hassard discussed a report submitted by a county medical society on the operations of an organization which is apparently operating outside the scope of present laws in securing corneas for transplants. On motion duly made and seconded, it was voted to ask Mr. Hassard to confer with the Attorney General in this matter.

8. *Public Policy and Legislation:*

Drs. Schraft, Hicok and Smith, and Messrs. Kennedy and Rooks, representing the California State Dental Association, discussed proposed legislation, which would create one department of the state government to take over the functions of the present Department of Public Health, the Board of Medical Examiners, the Board of Dental Examiners and possibly other boards dealing with the healing arts.

Mr. Hassard discussed this proposal and it was duly moved, seconded and voted to approve this type of legislative proposal.

9. *State Bureau of Vocational Rehabilitation:*

Dr. Richard A. Young, medical consultant to the State Bureau of Vocational Rehabilitation, discussed the import of the new amendments to the Federal Social Security Law, dealing with total and permanent disability. He expressed his desire to work with the medical profession in the administration of this law. Dr. Young also urged the Committee to promote in every way possible the participation of physicians in community affairs, especially where questions of health and medical care are involved.

10. *Public Relations:*

(a) A communication from a member relative to establishing a series of radio programs was discussed and ordered transmitted to the Public Relations Department for conferences with the radio station administration.

(b) Mr. Clancy reported that more than 1,000,000 pamphlets in the current series provided by the Public Relations Department have already been distributed.

(c) Dr. Daniels reported on the Conference on Physicians and Schools held in Fresno November 12 and 13 and commented favorably on the interest and cooperation manifest by school and public health representatives present. A second such conference is planned in about two years.

11. *Executive Committee Meetings:*

On motion duly made and seconded, it was voted to hold dinner meetings of the Executive Committee on the second Wednesday of each month in San Francisco, with the exception of those months when the Council would meet at approximately the same time.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 11:45 p.m.

IVAN C. HERON, M.D., *Chairman*
ALBERT C. DANIELS, M.D., *Secretary*

In Memoriam

HAMMACK, ROY W. Died in Los Angeles, September 20, 1954, aged 68, of leukemia and phlebitis. Graduate of Johns Hopkins University School of Medicine, Baltimore, Maryland, 1911. Licensed in California in 1916. Doctor Hammack was a member of the Los Angeles County Medical Association.

✣

HUGHES, JONES R. Died in Los Angeles, September 7, 1954, aged 51, of coronary thrombosis. Graduate of the University of Pennsylvania School of Medicine, Philadelphia, 1933. Licensed in California in 1934. Doctor Hughes was a member of the Los Angeles County Medical Association.

✣

MOLONY, CLEMENT J. Died in Los Angeles, December 4, 1954, aged 45. Graduate of Washington University School of Medicine, St. Louis, Missouri, 1934. Licensed in California in 1934. Doctor Molony was a member of the Los Angeles County Medical Association.

POPE, WILLIAM H. Died in Sacramento, December 6, 1954, aged 75. Graduate of the Medico-Chirurgical College of Philadelphia, Pennsylvania, 1907. Licensed in California in 1920. Doctor Pope was a member of the Sacramento Society for Medical Improvement, a life member of the California Medical Association, and an associate member of the American Medical Association.

✣

SOMMERS, IGNATIUS G. Died in Los Angeles, August 18, 1954, aged 60, of lymphosarcoma. Graduate of Medizinische Fakultät der Universität, Wien, Austria, 1919. Licensed in California in 1945. Doctor Sommers was a member of the Los Angeles County Medical Association.

✣

WILSON, CARL G. Died in Palo Alto, December 1, 1954, aged 74. Graduate of the College of Physicians and Surgeons, San Francisco, 1902. Licensed in California in 1902. Doctor Wilson was a member of the Santa Clara County Medical Society.

Watch for

PROGRAM FOR C. M. A. ANNUAL SESSION

AND PRE-CONVENTION REPORTS

in the

MARCH ISSUE

of

CALIFORNIA MEDICINE

APPLICATION FOR HOUSING ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the **California Medical Association**, May 1-4, 1955, in San Francisco, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, you will stand a much better chance of securing accommodations of your choice if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

ALL RESERVATIONS MUST BE RECEIVED BEFORE: APRIL 15, 1955

NOTE: ***The House of Delegates will convene at the Sheraton-Palace Hotel; all scientific sessions and exhibits will be at the Civic Auditorium.***

Eighty-fourth Annual Session

CALIFORNIA MEDICAL ASSOCIATION

San Francisco, California

MAY 1-4, 1955

HOTEL ROOM RATES*

	Single	Double	Twin Beds	Suites
SHERATON-PALACE HOTEL Market and New Montgomery	7.50-15.00	10.00-17.50	10.50-18.00	19.00-65.00
ST. FRANCIS HOTEL Powell and Geary	9.00-20.00	11.00-16.00	13.00-22.00	24.00-40.00
SIR FRANCIS DRAKE HOTEL Powell and Sutter	8.50-14.00	10.50-16.50	13.00-19.50	25.00-36.00
CLIFT HOTEL Geary and Taylor	10.00-15.00	10.00-18.00	13.00-18.00	18.00-35.00
PLAZA HOTEL† Post and Stockton †Deposit required	6.00-7.00		9.00-10.00	
STEWART HOTEL Geary and Powell	4.50-8.00	6.50-10.00	7.00-12.00	12.00-17.00
WHITCOMB HOTEL Market and Eighth	5.00-9.00	7.00-11.00	8.00-12.00	18.00-25.00
ALEXANDER HAMILTON O'Farrell and Hyde	6.00-11.00	8.00-13.50	8.50-14.00	12.00-30.00

***The above quoted rates are existing rates but are subject to any change which may be made in the future**

CALIFORNIA MEDICAL ASSOCIATION
450 Sutter Street—Room 2000
San Francisco 8, California

Please reserve the following accommodations for the 84th Annual Session of the California Medical Association, in San Francisco, May 1-4, 1955.

Single Room.................... Double Bedded Room.................... Twin Bedded Room....................

Small Suite.................... Large Suite.................... Other Type of Room....................

First Choice Hotel.................... Second Choice Hotel....................

ARRIVING AT HOTEL (date)....................Hour:..........A.M..........P.M.

Leaving (date)....................Hour:..........A.M..........P.M.

Hotel reservations will be held until 6:00 P.M., unless otherwise notified

THE NAME OF EACH HOTEL GUEST MUST BE LISTED. Therefore, please include the names of both persons for each double room or twin bedded room requested. Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

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(Individual Requesting Reservations—Please print or type)

Name.................................... County....................................

Address.................................... City and State....................................

WOMAN'S AUXILIARY

TO THE CALIFORNIA MEDICAL ASSOCIATION

NATIONAL CONFERENCE HELD IN CHICAGO

The eleventh annual conference of state presidents, presidents-elect and national committee chairmen of the Woman's Auxiliaries, held in Chicago in November, had as its theme "Leadership in Community Health." Representing California were Mrs. Carl Burkland, National Secretary; Mrs. Matthew Hosmer, state president-elect; and your correspondent.

Panel discussions by the Auxiliary members, as well as talks by guest speakers from the A.M.A., all stressed the importance of taking an active interest in health education and service on the community level. We were reminded that "As a physician's wife is his personal helpmeet, she is likewise his community envoy and representative; to her rightfully belongs leadership in health education and community health service."

* * *

OUR PROGRAMS STRESS SELF-EDUCATION

In order to take an active and intelligent interest in the health needs of their communities, our members must first be well-informed themselves. Our state program chairman, Mrs. Lawrence Custer of San Francisco, has planned and coordinated a well-balanced program for the counties, with emphasis on such topics as mental health, civilian defense, nurse recruitment, health legislation and voluntary health insurance plans. Several of our counties are having Mr. Ben Read, executive secretary to the California Public Health League, as their guest speaker during the year. He gives our members good advice on voting intelligently and stresses continued vigilance against the passage of bills that might be detrimental to the medical profession.

Cooperating in planning programs on legislation for the year is Mrs. Joseph Stout, Jr., of Pasadena, state legislative chairman. Much effective study is done by our Auxiliary study groups, where panels and round-table discussions as well as talks by guest speakers keep our members informed about legislative trends on state and national levels.

INTERESTING NEW PROJECT IN LOS ANGELES COUNTY

In every county, the Auxiliary tries to plan at least one joint dinner meeting with the Medical Society; usually they meet together on the night that the president of the California Medical Association makes his official visit.

The Los Angeles County Auxiliary has gone one step farther this year. Its president, Mrs. Elaine G. Cooper, has created the Caducean Section, which sponsors a series of dinners followed by lecture and film programs. Physicians show their own travel pictures and make their own commentaries, thus adding a personal touch to the programs. Aside from the cultural and educational benefits, physicians and their families are finding the meetings to be an excellent means of becoming better acquainted. We heartily recommend a similar plan to other counties.

* * *

DOCTORS TAKE TIME OUT FOR FUN, TOO

Most of our programs are serious, but once in a while we plan something purely for the entertainment of our members and their husbands. Sometimes these creative efforts gain nationwide fame. Such was the case in San Diego, after Mrs. James Phalen wrote the clever musical skit "There Is a Doctor in the House." This play has been presented to state and national conventions, and copies have been sent as far as Iowa, Indiana and Alabama. The group makes no charge for the script, but does specify that the skit must be presented for a nonprofit event.

Also popular throughout the state are costume dances for doctors and their wives; Kern County has a masquerade party every spring, and the Sonoma County Sono-Medics Sirkus has become a pleasant tradition. Fresno, too, has a gay spring dinner-dance complete with songs, dances and skits. Riverside County annually has a special party for the doctors; this year, the five-scene skit "Medical School Daze" was the featured entertainment.

Many of the annual parties bring tidy profits to the Nursing Scholarship Fund. In Placer-Sierra-Nevada, for instance, the October dinner-dance was as profitable as it was festive. Humboldt County, too, has an annual Christmas Ball which nets as high as $1,700 for the Nurses' Fund there. We'll tell you about other money-making parties next time.

Mrs. Frederick J. Miller, *President*

NEWS & NOTES

NATIONAL • STATE • COUNTY

LOS ANGELES

The Seventh Annual **Mid-Winter Radiological Conference,** sponsored by the Los Angeles Radiological Society, will be held at the Ambassador Hotel in Los Angeles, on Saturday and Sunday, February 26 and 27, 1955. Conference reservations may be made through the chairman, Richard A. Kredel, M.D., 65 North Madison Avenue, Pasadena.

NAPA

At the annual meeting of **Napa County Medical Society** the following officers were elected: Dr. Wrenshall Oliver of Imola, president, succeeding Dr. Harold E. James of Sanatarium; Dr. Donald Marchus, Napa, vice-president; and Dr. Robert Ashley, Napa, secretary-treasurer, succeeding Dr. Merle F. Godfrey, Napa. Dr. Walter Brignoli of St. Helena was reelected a delegate to the California Medical Association, and Dr. Donald Marchus was reelected an alternate.

SAN FRANCISCO

The San Francisco Chapter of the **Pan-American Medical Association** held its annual dinner meeting honoring the local consular representatives and visiting Latin American and Canadian physicians and students at the Bohemian Club on November 27. Dr. Marius A. Francoz presided. Newly elected officers for 1955 are: Dr. Ralph A. Reynolds, president; Dr. Berthel H. Henning, first vice-president; Dr. Leonard Barnard, second vice-president; Dr. Knox H. Finley, treasurer; and Dr. Fernando G. Gomez, secretary.

SOLANO

Dr. Melvin A. Schmutz recently was elected president of the **Solano County Medical Society,** succeeding Dr. Herbert L. Joseph; Dr. Sam Nesting was elected vice-president and Dr. John C. Miller was elected to succeed Dr. Robert L. Garrett as secretary-treasurer.

SONOMA

Dr. Andrew E. Thuesen, Santa Rosa, was named president-elect of the **Sonoma County Medical Society** at its annual meeting, December 7. Dr. Robert S. Westphal succeeded Dr. William J. Rudee as president of the Society. Dr. Frank E. Lones was reelected secretary-treasurer.

GENERAL

At the annual meeting of the **California Society of Internal Medicine,** held at the Ahwahnee Hotel in Yosemite National Park on October 2, 1954, the following officers were elected for 1954-55: Dr. Paul I. Hoagland, Pasadena, president; Dr. George K. Wever, Stockton, vice-president; and Dr. James H. Thompson, San Francisco, secretary-treasurer.

The Councilors elected were: Dr. Walter P. Martin, Long Beach; Dr. William C. Mumler, Los Angeles; Dr. Charles A. Noble, Jr., San Francisco; Dr. Roy A. Ouer, San Diego; Dr. Robert L. Smith, Jr., San Francisco; and Dr. Arthur R. Twiss, Oakland.

* * *

Harold D. Chope, director of public health and welfare, San Mateo County, was elected president of the **California Conference of Local Health Officers** at the conference's eighth annual meeting held in Bakersfield November 15 and 16. Dr. Chope succeeds Dr. James C. Malcolm, health officer of Alameda County.

Dr. Edward Lee Russell, Orange County health officer, was elected vice-president and Dr. Ellis D. Sox, San Francisco health officer, secretary.

* * *

The California Society of Allergy wishes to extend an invitation to any member of the California Medical Association who has an interest in allergic diseases. The Society is dedicated to the advancement in scientific knowledge of allergic diseases and to the support of those institutions and foundations devoted to the dissemination of such knowledge and research.

Information concerning membership in the Society may be obtained by addressing Ben C. Eisenberg, M.D., Secretary-Treasurer, California Society of Allergy, 2680 Saturn Avenue, Huntington Park.

* * *

The Council on Undergraduate Medical Education of the **American College of Chest Physicians** has offered three cash awards to be given for the best contributions, prepared by any undergraduate medical student studying for a degree in medicine, on any phase of the diagnosis and treatment of chest diseases (heart and/or lungs).

The first prize will be a cash award of $250. Second prize will be $100 and third prize $50. The three winners will also receive a certificate of merit. The winning contributions will be announced at the 21st Annual Meeting of the American College of Chest Physicians, to be held in Atlantic City, New Jersey, June 2-5, 1955. Deadline for submitting manuscripts is April 10, 1955. Further information may be obtained from Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

* * *

The American Orthopsychiatric Association will hold its 32nd Annual Meeting at the Hotel Sherman, Chicago, on February 28, March 1 and 2, 1955. Approximately 100 scientific papers will be presented by psychiatrists, psychologists, social workers, educators, sociologists and anthropologists. There will be all-day sections on Childhood Schizophrenia, Child Development and Psychotherapy with Children.

POSTGRADUATE EDUCATION NOTICES

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

In San Francisco:

Electrocardiography for Beginners—January 31 to February 4.

Advanced Electrocardiography—January 31 to February 4.

Therapy of Cardiovascular Diseases—January 31 to February 4.

Atomic Energy Medicine—February 24 to February 27.

Course for General Practitioners—March 7 to March 11.

Symposia on Psychosomatic Medicine—March 23, 30, and April 6.

Recent Advances in Internal Medicine—April 18 to April 22.

Pediatric Conference—September (dates to be announced later).

Conference on Applied Therapeutics—October 17 to October 19.

Conference on Gynecology and Obstetrics—October 20 and October 21.

Ophthalmological Conference—December 5 to December 9.

In East Oakland:

Medicine for General Practitioners—Tuesday evenings, September 20 to December 6.

In Berkeley:

Postgraduate Conference—Wednesday evenings, September to December (dates to be announced later).

In San Mateo:

Evening Lectures in Medicine—Thursday evenings, September 22 to December 15.

Contact: Office of Medical Extension, University of California Medical Center, San Francisco 22.

STANFORD UNIVERSITY SCHOOL OF MEDICINE, SAN FRANCISCO

Spring Conference in Ophthalmology—March 21 through March 25.

Contact: Office of the Dean, Stanford University School of Medicine, 2398 Sacramento Street, San Francisco 15.

UNIVERSITY OF SOUTHERN CALIFORNIA AT LOS ANGELES

The Medical Extension Education Division of the University of Southern California School of Medicine announces:

Four courses to be offered for twelve weeks starting January 6, 1955, as follows:

*No. 841 Course—Basic Principles of Cardiorespiratory Physiology and Their Clinical Application.

No. 873 Course—Cardiac Resuscitation, sponsored by the Los Angeles County Heart Association.

No. 864 Course—Pediatric Clinics for General Practitioners.

No. 846 Course—Seminars in Advanced Gastroenterology.

For application blanks or other information call or write to Division of Medical Extension Education, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33 (Capitol 5-1511).

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*Course No. 841 is restricted to specialists; all other courses are open to graduates of Grade A medical schools who have completed an approved internship.

CHILDREN'S HOSPITAL SEMINARS

The Management of Metabolic Disturbances Commonly Encountered in Practice—January 22, 1955.

The Allergic Dilemma—February 26, 1955.

Infections and Their Management—March 26, 1955

Accreditation by the Board of General Practice has been granted. Gertrude F. Jones, M.D., Chairman, Medical Alumni Committee, Children's Hospital, 3700 California Street, San Francisco 18.

SAN FRANCISCO HEART ASSOCIATION

Twenty-sixth Annual Postgraduate Symposium on Heart Disease at the St. Francis Hotel, San Francisco, October 5, 6, 7, 1955.

For information contact Gladys Taylor Daniloff, Executive Director, San Francisco Heart Association, 604 Mission Street, San Francisco 5, Calif.

CALIFORNIA MEDICAL ASSOCIATION, POSTGRADUATE ACTIVITIES INSTITUTES

Southern Counties—Tennis Club, Palm Springs—January 27-28, 1955.

North Coast Counties—Santa Rosa—February 3-4, 1955.

West Coast Counties—Santa Barbara—February 17-18, 1955.

San Joaquin Valley Counties—Yosemite—April 13, 14, 15, 1955.

Sacramento Valley Counties—Cal-Neva—June 16-17, 1955.

Contact: C. A. Broaddus, M.D., Director of Postgraduate Activities, P.O. Box AI, Carmel, California.

Medical Dates Bulletin

This bulletin of the dates of postgraduate education assemblies and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: C. A. Broaddus, M.D., P.O. Box AI, Carmel, California.

JANUARY MEETINGS

January 17-28—Research Study Club of Los Angeles: Twenty-fourth Annual Midwinter Clinical Convention in Ophthalmology and Otolaryngology. Mr. H. M. Nickerson, manager of the Elks Club, 607 South Parkview Street, Los Angeles 57.

January 21-22—American College of Surgeons: Palm Springs.

January 26-28—American Board of Orthopedic Surgery: Part II, Oral and Written, Examination, Los Angeles. Final date for filing application for Part II was August 15, 1954. Dr. Harold A. Scofield, 122 S. Michigan Avenue, Chicago, Ill.

* * *

California Medical Association: Annual Session, May 1-4, 1955, San Francisco.

American Medical Association: Annual Session, 1955, Atlantic City, June 6-10; Clinical Session, 1955, Boston, November 29-December 2.

California Society of Internal Medicine: October 1, 1955, Biltmore Hotel, Santa Barbara, Mildred D. Coleman, Assistant Secretary, 384 Post Street, San Francisco 8.

INFORMATION

Malpractice Claims Prevention Programs

Are They Worth While?

HOWARD HASSARD, *Esq.*
Of Peart, Baraty & Hassard, San Francisco

ARE MALPRACTICE CLAIMS prevention programs worth while? Suppose we break that question into several pieces and examine each in an effort to discern the underlying factors that cause the question to be posed.

First: "What is to be *prevented*?"

To answer this, a brief historical review is appropriate. Regan tells us that in the decades between 1900 and 1940 there was a 540 per cent increase in the number of malpractice cases that reached the appellate courts in the United States as a whole. In the year 1940 the total number of such cases was 33. In 1953 there were 32.

These years were picked at random. They indicate a plateau, which practical experience confirms. The volume remains at least five times the 1900 incidence.

Dr. Regan's statistics demonstrate the tremendous rise in the incidence of malpractice suits in the past fifty years. Further, a little research in a law library discloses that the increase is perhaps more noticeable in the largest metropolitan centers, but that it is by no means confined to any one area. It cannot be localized.

Lest physicians assume that they are being singled out by the public for special torture, it must also be understood that all forms of personal injury litigation have dramatically increased since World War I. Mass production of the automobile has wrought many changes, one of them being increased frequency of accidental injuries or death and increased resort to law for redress.

When people become suit-conscious in general, they tend to think in terms of legal action for any and all real or fancied grievances. Fifty years ago a guest in a home would consider it ungentlemanly to sue his host because after the third martini he wandered through a plate glass window. Nowadays suits of this type are not too uncommon.

With the public litigation-conscious, there is a tendency to commence legal action, not only when warranted, but also when there is just a bare chance of recovery; sometimes even when there is no legitimate cause for complaint.

Within the field of professional liability, the main activity that can be "prevented" is the fraudulent or false or vindictive or long-shot suit that is not based on just cause. The meritorious action not only cannot be prevented, but ought not be impeded. However, to separate the sheep from the goats and thereby reduce the incidence of nuisance claims would drastically curtail professional liability actions, and of itself is a justifiable reason for a claims prevention program.

Second: "What is malpractice?"

"Malpractice" is the commonly used term to describe the liability at law of physicians and surgeons for torts committed during the course of their practice. Properly stated, it is "professional tort liability." A "tort" is a violation of one's duty to use reasonable precaution for the safety of others, resulting in an injury to another.

By law, we are all obliged at all times to be reasonably careful of the safety of others. If one of a group of people seated together in a room, for example, should suddenly jump up, knocking over his chair in the process, and if the chair injured the person sitting behind him, he might find himself the defendant in a tort action for having failed to use ordinary care.

As applied to physicians, the law requires that each physician possess the average skill found amongst fellow-practitioners doing the same work in his own community, and that he at all times exercise ordinary prudence and thoughtfulness in the application of his skill to his patients. The failure to live up to these obligations is called "malpractice."

The ordinary personal injury suit against the average person involves his pocketbook only. Hence, if he is adequately insured he gives the fact of a suit against him very superficial concern.

But to a physician, or any other professional man, a professional liability suit involves something else that is much deeper, much more important. His professional reputation, his very livelihood, his pride and his self-respect are all at stake. In his mind, it is an accusation akin to a charge of dishonorable conduct. It is humiliating.

Therefore, we must not look solely to the financial aspects of malpractice.

Each physician, in order to avoid the humiliation of a liability suit, must become thoroughly familiar with the various rules of law, that together, constitute the law of malpractice. He must intimately know the rules of the game.

Presented before the 1954 Annual Meeting of the Medical Society Executives' Conference, San Francisco, June 21.

Medical schools are not law schools. Hence the practicing physician must acquire his knowledge of the law that governs him after he is in practice, and he may acquire this knowledge either haphazardly or systematically. He will pick up his concepts either on a hit-or-miss basis from dubious sources or he will acquire it in an orderly fashion from teachers who know at least as much as the student.

A systematic, well-organized professional educational program in the field of malpractice has the possibility of achieving a tremendous reduction in the incidence of malpractice claims and suits. By educating physicians to their legal responsibilities and to the required conduct in carrying out those responsibilities, approval of the law, of the public and of patients may be obtained and maintained.

Malpractice has another most important facet that must be understood in any discussion of a claims prevention program.

All physicians today are, or ought to be, insured against professional liability. This insurance, however, is far from the ordinary run-of-the-mill public liability coverage.

It is true that the legal theory underlying responsibility for running down a pedestrian or for burning a patient with an ultraviolet lamp are one and the same; but beyond that, all resemblance ceases. From the moment of knowledge, the investigation, claims analysis, preparation for defense, and defense of an automobile personal injury case are standardized, not too difficult to master, and fit into the ordinary operations of any insurance claims department or law office.

The investigation, the claims analysis, the preparation for defense, and the defense against a malpractice claim are not in any way comparable to these factors with regard to other personal injuries. An investigator must know enough about the practice of medicine to be able to know what to investigate when a claim of malpractice has been made. The analysis of the results of the investigation requires expert medical judgment. The defense of a malpractice case in court involves specialized training in this field. The rules of evidence and the substantive rules of law are different than in the ordinary personal injury case. The lawyer must understand the medical aspects thoroughly, so that he can communicate in ordinary English to the judge and jurors the issues and facts involved.

Recently, I appeared in Federal Court at Salt Lake City, and while awaiting the commencement of our trial. I sat in the courtroom and observed the case that preceded us, which was a suit by the Navajo Nation against the United States for damages resulting from the destruction of Navajo horses by agents of the United States Indian Service. The witnesses were all Navajo Indians who could not speak English and interpreting was necessary. Each question was translated by the interpreter into Navajo; when the witness replied, the interpreter translated the answer. The net result was that the trial took twice as long as it would have if court, jury, counsel, and witnesses all spoke in a commonly understood tongue.

This is an extreme example, but a malpractice trial is similar. Medical terms must first be understood by counsel, and then converted into language understood by judge and jurors.

It is obvious that insurance companies that have a few malpractice policies outstanding in a community cannot afford to set up separate specialized malpractice claims departments or employ attorneys who specialize in malpractice defense. Premium volume is too small to warrant tailor-made or custom handling. To justify expenditure of funds for special treatment of malpractice policies, there must be a substantial volume, which means all or most of the physicians over a large area.

An insurance carrier, unless it has a large volume, cannot afford the further expense of a specialized prophylaxis or prevention program. Fire insurance companies, with all of their business at risk, can afford to spend substantial sums of money in fire prevention programs. Workmen's compensation insurers, with hundreds of thousands of employees insured, can afford to spend money on safety programs. But an insurer with a few hundred scattered physicians insured simply cannot do so.

One essential of insurance is spread of risk. The whole field of physicians' professional liability in the United States is limited to approximately 160,000 physicians. If one company insured all, the insurance base would be minor, as compared to twenty million automobile owners, or fifty or sixty million homes, or the sixty to seventy million people covered by workmen's compensation.

Hence, one of the inherent problems in malpractice insurance is the limited market and the consequent limited ability of any one carrier to conduct the equivalent of a safety program.

Third: "What is a *program?*"

In northern California, 23 county medical societies now have professional liability insurance contracts with the same insurance carrier, American Mutual Liability Insurance Company. In all, close to four thousand physicians are participating. While each county has it own group contract, the program is substantially the same from Fresno in the south to Siskiyou in the north.

Each county has a medical committee. In the early stages of each claim against a physician, the facts are fully investigated by claims representatives of the insurer, who devote their entire time to this type of work. As claims adjusters, they are "specialists" in professional liability work.

When the case is investigated, the facts are then submitted to the society's medical committee. The members of the committee discuss and debate the case, sometimes call for more investigation, sometimes ponder their decision at length, on other occasions reach a conclusion fairly rapidly.

In any event, the committee satisfies itself that it has considered all the material facts, and then recommends either—

1. That the claim has merit and that the claimant should be fairly compensated; or
2. That the facts do not disclose any medical dereliction on the part of the accused physician, and that the case should be defended.

To date, in each instance the insurance carrier has abided by the recommendations of the appropriate committee.

The functioning of the society's committee does not, however, terminate with recommended action. If it has recommended that the case be defended, the members of the committee then actively and voluntarily assist in the preparation of the defense and in the actual trial of the case. To the defense attorney, this is of invaluable aid. Incidentally, it reduces the cost of defense substantially.

Finally, the members of the various medical committees also appear before various professional audiences, and from their experiences undertake to explain to the practicing physician the legal pitfalls that beset a doctor and the conduct which should be adhered to to avoid legal liability.

The physicians who serve on these committees obtain "occupational experience." They know from having experienced specific cases what the problems are, and what information a physician needs in order to conduct "good practice" rather than "bad practice."

Admittedly, the program in California is far from perfect. A great deal more could be done, and should be done, to inform all physicians of their legal obligations, and to enable them to avoid the humiliation of a malpractice suit.

More manpower than has been available to date is no doubt needed. But at least we believe that this program is a sensible beginning. We feel that malpractice claims are intelligently analyzed, and that time and money is not wasted in endeavoring to defend the indefensible. On the other hand, unwarranted claims are discouraged in that nuisance settlements are not made. If the case is unjust it is defended; it is not settled, no matter how cheap it can be bought.

Physician participation in the trial of cases is obtained on a voluntary cooperative basis, and above all the physicians who serve on the medical committees become experienced in and aware of the problems involved, and are able to do missionary work amongst their colleagues.

It takes years for the results of such a program to become really measurable. We feel that at least ten years, and probably fifteen years, must elapse—and we are now only in the fifth full year—before any reliable inventory can be made.

However, the results to date indicate to us who are close to the picture that we have at least halted that steady increase in the incidence of malpractice claims and suit, noted by Dr. Regan, that commenced early in the century and that has continued without interruption for fifty years.

There are a few specific observations that are somewhat beside the principal theme of this address, but that are most important and ought not to be ignored in considering the value of any prevention program.

1. The incidence of malpractice claims is in inverse ratio to the degree of personal relationship between physician and patient. The more impersonal and aloof a physician is, the more critical the patients are bound to be.
2. The confidence of a patient in his physician is rudely jolted when another physician makes sarcastic or derogatory comments. The roots of many malpractice cases are embedded in such remarks as "What butcher performed that operation?" or, "How in the world could he have missed it?" The physician, like all of us, must sell himself. The art of salesmanship is not easily acquired and the amateur usually does the wrong thing. He builds himself up by knocking others. Actually, that is poor salesmanship. The expert salesman ignores his competitor and concentrates on establishing confidence in himself.
3. Even the poor have pride, and a certain way to wound deep personal pride and self-respect is for a physician to send a bill that his patient cannot pay and in so doing humble the patient to the point where he has to ask for charity. Many a malpractice case has its roots in the thoughtless handling by a physician of the financial side of his practice. The bill does not have to be exorbitant to cause anger and resentment; it can be reasonable, but if it humiliates, resentment is immediately aroused. A little tact and a little inquiry before billing could save many a headache.
4. Lawyers soon learn not to believe everything that their clients tell them. People have a habit of stating as fact that which they would like to believe, not the cold cruel reality. Many physicians find it difficult to realize that the tales their patients tell them may not necessarily be true. Consequently, a patient who is shopping will tell a physician a tall story about treatment that he received from another doctor; the physician accepts it as true, and comments accordingly; next year, he is in court.
5. Inherently, malpractice prevention is entwined with malpractice insurance. The insurance obtained

must be adequate and the carrier *interested.* Insurance is a commodity, it comes in different prices and packages and is produced to fit a market. If one buys the cheapest policy, one gets exactly what is deserved—the lowest quality. For physicians to buy malpractice insurance solely on the basis of price, is, to my mind, foolish. Recently, a California physician cancelled his group coverage because he could save ten dollars elsewhere. He said, "We feel that with today's competitive prices we have to be on the lookout for savings." So will his carrier when he is faced with a claim of malpractice. Then he will learn. A malpractice prevention program and basement bargain sales are incompatible with each other. A safety program costs money, whether it involves your home, factory or profession.

These, then, are some of the reasons why a prevention or safety program is worth while and why to undertake it requires group, rather than individual, action.

If by now anyone doubts the need for control of "malpractice" suits, allow me to quote from the May 1954 issue of the American College of Radiology News Letter:

"There are many reasons why the entire medical profession today finds itself in the same position that radiology was in 20 years ago. Here are some of the recent causes that have gone into the pot to make hospital and physicians' liability insurance even more undesirable from the underwriters' standpoint: increased demand for medical and hospital care; legislation increasing hospital liability; specialization, excessive fees; increased public 'claim consciousness'; bad hospital public relations; hospitalization insurance; dollar 'madness'; court interpretations broadening liability in this field; increased costs of legal work and investigation.

"The most potent factor, however, is the ever spiraling inflation and dollar devaluation—to which there seems to be no end—and which has resulted in fantastic judgments being rendered by juries in personal injury and malpractice suits."

Again, quoting from the same article in connection with the problem of lack of interest by insurance carriers:

"Some few of the companies are reluctantly writing business at the Bureau rates. One company will write for only their own agents and will cover x-ray therapy, providing the assured has been certified by the American Board of Radiology or is a member of the American Roentgen Ray Society or the Radiological Society of North America. Another company will write for its own agents only and will not write or renew existing policies for brokers. In addition, the applicant must promise the company all of his insurance business as collateral."

Physicians are in jeopardy until the insurance industry again is *interested* in insuring them. This will not occur unless and until the risk in professional liability insurance is lessened materially. The *risk* won't decrease of its own accord. A real, vigorous and widespread but grass roots program—by the medical profession itself—to educate its members to their legal duties, to advise and assist when trouble brews, and to fight relentlessly all unjust claims, is the only prudent course of action, if disaster is to be avoided.

111 Sutter Street, San Francisco 4.

THE PHYSICIAN'S *Bookshelf*

SMOKING AND CANCER—A Doctor's Report. Alton Ochsner, M.D. Julian Messner, Inc., New York, N. Y., 1954. 86 pages, $2.00.

There is an old saying that there is none so righteous as a reformed rake. Alas for that adage, the author of this work states, "I myself have never smoked." Perhaps not cigarettes, but his pages surely smoke like fire and brimstone.

After an introduction by Professor Evarts Graham—marred, alas, by several errors—the author plunges into a cascade of 16 indignant chapters studded with even larger errors.

"Cigarettes cause cancer." This bald and scientifically unproven statement—unproven insofar as human lung cancer is concerned—opens chapter one. "In 1954 some 23,000 Americans will die from lung cancer." Dr. Ochsner means respiratory tract cancer; the fact that only about 75 per cent of *respiratory tract* cancer is due to *bronchial* carcinoma is omitted.

Besides causing cancer of the lung, smoking is credited with leading to impotency in men and sterility in women, heart disease, cerebral hemorrhage, indigestion and asthma. No scientific data are offered to support these dogmatic assertions. Instead, the author relies on material accumulated by volunteer workers for a national welfare organization, data based on "reported" (not verified) cancer deaths in a sample of only 5 per cent of the population group under study. These data, if correct, do show an association between reported lung cancer deaths and reported smoking habits, but the figures differ widely from those recently published by Doll and Hill as a result of a careful prospective survey of cancer deaths in British physicians.

For example, the American Cancer Society figures "show" that "cigarette smoking is associated with an increase in the death rate from most of the common sites of cancer in men." However, the Doll and Hill figures show that cancer (outside the lung) is commoner in nonsmokers than in smokers.

Concerning tobacco carcinogenesis, Dr. Ochsner does state (p. 9) that "In our present ignorance we do not know exactly what happens during this process." He could have added "or whether the tobacco factor is more than a fractional one," for the simple reason that the very figures he leans upon so heavily show that at least 99,761 out of every 100,000 male heavy smokers (males from 50 to 70 who have smoked over one pack of cigarettes a day for 20 or more years) *do not die of lung cancer.* The Hammond-Horn data show, in their particular sample, an apparent risk of 27 deaths per 100,000 in nonsmokers; a risk four times as much in moderate smokers; and one nine times as much in heavy smokers. However, if limited to squamous cell cancers (the ones supposedly caused by cigarettes) the rate is still only about 200 per 100,000 heavy smokers ages 50 to 70.

The Graham-Wynder experimentally-produced mouse skin cancers are reported. To equal that exposure concentration in human lungs, your reviewer has been told that a distinguished Chicago pathologist calculated a man would have to smoke some 600,000 cigarettes a day for 64 years. Furthermore, in the Wynder mice, more females than males developed skin cancer; the ratio in human lung cancer is of course about 5 males to 1 female.

Space does not permit further comments on the data offered by Dr. Ochsner. However, a few quotes should permit the reader to gauge the tenor of the rest of this Catiline oration:

"As your cigarette burns, more than 200 chemical substances appear, flare up and vanish . . . it's somewhat like puffing on a small H-bomb."

"Cancer of the larynx has increased approximately as rapidly as lung cancer in the past twenty years." The scientific *facts* available to your reviewer show that this is not true.

"Tobacco . . . can cause . . . an ulcer (of the stomach). *Often* such ulcers become malignant." This indeed is news, or perhaps grade IV hysteria.

In calmer mood, the author mentions Doll's estimate that at least 20 per cent of lung cancer deaths in England in 1950 were attributable to causes other than smoking, that many investigators believe other air pollutants may be a greater factor, and that many heavy smokers do reach a ripe old age to die of nonnicotinogenous causes. He condemns the cigarette industry for its blatant advertising of two decades back and its evil domination of television today. This may well be true, but too bad to outdo Carrie Nation by his adding . . . "Would the measures I have suggested 'ruin' the tobacco industry? Hardly . . . not as long as there are smokers who will deliberately suffer *quadruple amputation*, rather than heed the warning to quit smoking." Gentle reader, how many *quadruple amputations* resulting from endarteritis obliterans due to nicotine addiction are there on scientific record? Please, Dr. Ochsner.

No one should consume excessive amounts of sugar, cream or butter, for obesity and heart disease are handmaidens. No one should abuse alcohol, caffeine or nicotine, for drug addiction and disease are cousins. Nor should suspicion and premature conclusions lead to intemperance in words and action. Have a smoke, Dr. Ochsner, just one—and relax.

* * *

PROCEEDINGS OF THE FOURTH INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY OF HEMATOLOGY—1952. Associate Editors: F. Jiminez de Asua, Buenos Aires; William Dameshek, Boston; and Sol Haberman, Dallas. Grune & Stratton, Inc., New York, 1954. 473 pages, $10.00.

This is a volume of collected papers presented before the International Society of Hematology in Argentina in 1952. The delay in publication is unfortunate but probably unavoidable. This is a similar but somewhat smaller book than that of the previous Proceedings. The papers are grouped in one of seven sections which included neuroendocrinologic regulation of hemotopoiesis and hemostasis, histochemistry and cellular ultrastructure, the leukemias, manifestations of radioactivity in hematopoietic organs and hemostasis, hemolytic disease, and hemorrhagic disturbances. The excellent papers are too numerous to mention individually. In addition to full length articles, many summaries of other papers are included. Many of the papers are in Spanish but English summaries are presented. While there are papers such as Farber's review of his group's experiences in the treatment of acute leukemia which would be of interest to the general physician and internist, the volume is primarily of interest to the clinical and laboratory hematologist.

* * *

FUNDAMENTALS OF OTOLARYNGOLOGY—A Textbook of Ear, Nose and Throat Diseases—2nd ed. Lawrence R. Boies, M.D., Clinical Professor of Otolaryngology, Director of Otolaryngology, University of Minnesota Medical School. W. B. Saunders Company, Philadelphia, 1954. 487 pages, $7.00.

This second edition fulfills the author's statement that it represents a thorough revision of the first edition with some additions to bring the book completely up-to-date in this changing medical world.

The changes and additions comprise format, type, and an added chapter on bronchoscopy, bronchography, and pulmonary disease, information concerning the properties and uses of several of the better known antibiotics, the antihistamine drugs, and a paragraph about ACTH and cortisone. Of particular interest is a thought provoking addendum under the heading "The Possibilities of Transudate Disorders in Otolarnygology: Allergy, Autonomic Dysfunction and Endocrine Imbalance," by Jerome A. Hilger, M.D.

It is unfortunate that the revised edition retained several of the rather poor illustrations, some of which are of little, if any, real value.

The expanded indications for tracheotomy and the more frequent performance of this surgical procedure, make one wish that the author had at least mentioned the advantages of the horizontal or modified collar incision. The described vertical incision can offer no advantage except priority, and it frequently results in a disfiguring scar that taxes or defeats the most facile plastic surgeon.

The first edition was, and is, an excellent text for the undergraduate and the physician who is not a specialist in this field. This second edition is better than the first one and is recommended as one of those volumes which should be on hand and within easy reach.

* * *

LEGAL MEDICINE. Edited by R. B. H. Gradwohl, M.D., Sc.D., F.A.P.H.A., Commander, M.C., USNR (Ret.), Director of the Police Laboratory, Metropolitan Police Department, St. Louis; First President, American Academy of Forensic Sciences. The C. V. Mosby Co., St. Louis, 1954. 1,093 pages, 222 illustrations, $20.00.

A fairly complete volume on the subject of legal medicine, with an impressive list of contributors who represent the leading authorities in the various phases of legal medicine.

The lists of references following each of the sections is a useful source for those interested in special inquiry into some single field of legal medicine.

While the various subdivisions of legal medicine are more thoroughly treated in individual volumes on the subject this book presents a good compilation of the more commonly needed information.

The purely medical aspects of the subject are as well or better treated elsewhere. The technical subjects of hair analysis identification, blood stains, blood grouping, alcohol determination, and alcohol intoxication are extremely well presented and of particular value. The section on Forensic Psychiatry makes informative and easy reading. The indexing is adequate, although at times disappointing.

On the whole the book is an authoritative general review of the subject, making a good single source for information.

* * *

HYPERTENSION AND NEPHRITIS—5th ed, enlarged and thoroughly revised. Arthur M. Fishberg, M.D., Director of Medicine, Beth Israel Hospital, New York, Clinical Professor of Medicine, New York University Postgraduate Medical School. Lea & Febiger, Philadelphia, 1954. 986 pages, $12.50.

This well known book has undergone its first revision in 15 years. Several new chapters have been added including those on the treatment of essential hypertension and on diabetic glomerulosclerosis. Outstanding as before is its readability. The approach is generally a practical one for the clinician. The author in his preface states that the book is written for the practitioner and student, and it fills this rôle admirably. Both sides of controversial subjects are fairly presented. The specialist in cardiorenal disease will find the material valuable for review. An extensive bibliography is offered although recent references are not as numerous as might be expected. Despite the number of editions this book has undergone through the years, it is still outstanding in the field.

* * *

LABORATORY AIDS IN ENDOCRINE DIAGNOSIS. Roberto F. Escamilla, M.D., Associate Clinical Professor of Medicine, University of California School of Medicine. Charles C. Thomas, Publisher, Springfield, Ill., 1954. 131 pages, $4.75.

There is a great need for a summarization of the many complicated laboratory procedures used in the diagnosis of endocrine and metabolic disease problems, and this book is written to fulfill this need. The basic design of the book is excellent. The various laboratory tests on blood, urine, hormone assays, special procedures such as radio iodine uptake, useful x-ray studies, vaginal smears, endometrial biopsy, semen examination and testicular biopsy are described in detail, including the preparation of reagents, the technique of the test, the normal range, and the diseases in which the test may be abnormal. Finally, in the last chapter, under the headings of the various endocrinopathies, such as pituitary disease, thyroid disease, adrenal disease, gonadal disease, etc., the most useful diagnostic tests as well as those occasionally helpful are listed, and the expected abnormalities are summarized. Thus the clinician may find at a glance the tests which may help him solve his diagnostic endocrine problems and a technique for doing that test.

Unfortunately, laboratory tests, and particularly the hormone assays, are not as precise as one would like them to be. The results may vary with the method used, the reagents used, the laboratory doing the test, the collection of the specimen, and other variables. Therefore, in order to use these laboratory procedures, one must know not only the name of the desired test, but also the variability of the procedure in the laboratory selected to run it. New methods for hormone assay are being developed which may make certain tests presently used obsolete. However, this book will provide for the internist, the general practitioner, and the laboratory director a clear outline of the indications and the techniques of the most useful procedures in the diagnosis of Endocrine Disease, which are at present generally available.

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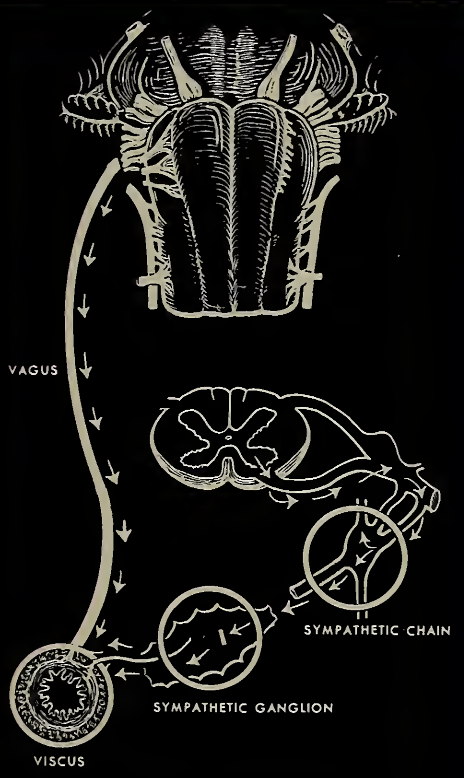

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[1] Schwartz I. R.; Lehman, E.; Ostrove, R., and Seibel, J. M.: Gastroenterology *25:*416 (Nov.) 1953.

[2] Roback, R. A., and Beal, J. M.: Gastroenterology *25:*24 (Sept.) 1953.

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Unexplained weakness, easy fatigability, pallor, palpitation, and dyspnea on exertion ordinarily are the tell-tale signs of a chronic anemia in women during the third to fifth decades.[1]

1. Rath, C. E.: M. Clin. North America 34: 1779, 1950.

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Some Patients Don't Want to Be Reassured

Sometimes the worst thing a doctor can do is to tell a patient he's perfectly well, a University of Virginia School of Medicine physician says.

Dr. Andrew D. Hart, Charlottesville, Va., stated some patients don't really want to be reassured. These are the patients with "cardiac neurosis," which may cause real symptoms of heart disease but may only be a substitute or cover-up for greater problems—such as tension and nervousness or fear of mental illness.

He said this type of patient visits the doctor with complaints of heart symptoms and is told firmly and reassuringly that he has no heart defect. The patient may then go to another—or more than one—doctor seeking another diagnosis. He may quote the first doctor as having said such things as "You have six months to live" or "I've never seen a worse heart than yours." The patient actually may believe this was what the doctor said—since even normal memory is far from accurate, and nothing is so helpful to recollection to people who "dearly" need to believe something, Dr. Hart said.

Further reassurance does not help, he said. The patient appears to be pleased with good news, but gives himself away with such statements as "It's just got to be physical or it must be mental." He might admit he would be "greatly relieved" if anything tangible could be found, Dr. Hart said in a recent issue of the *Journal of the American Medical Association.*

The behavior of such patients suggests that the anxiety about their hearts is necessary to them. A tangible organic defect serves as a "lesser-evil" defense against greater, undisclosed fears.

"Most of these persons have been inwardly tense and high strung as far back as they can remember," he said. "Nearly all admit to excessive nervousness and worry. . . . Sometimes an insidious emotional depression has led to a stifling, 'heavy heart' sensation that is nonetheless real because it is impossible to describe."

He said unrest, undermining of self-confidence, feelings of unreality, and dread of mental disease often result in a person's conviction that he has heart disease, and he becomes preoccupied with this notion. At this stage, a firm statement that there is no heart disease only makes the patient discontented. He doesn't know how to explain his feelings in the face of an excellent physical report.

Rather than an outright statement of good condition in such cases, Dr. Hart suggested that physicians should avoid a firm diagnosis and work for a closer relationship with the patient to find out what his deeper problem is. Some patients then will respond to treatment aimed at turning their energy and talents away from their concern about disease and toward outside interests and activities.

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BOOKS RECEIVED

ADOLESCENT EXCEPTIONAL CHILD, THE—A Realistic Approach to Treatment and Training. Proceedings of the 1954 Spring Conference of the Child Research Clinic of the Woods Schools, Langhorne, Penn.

CIBA COLLECTION OF MEDICAL ILLUSTRATIONS —Vol. 2—Reproductive System. Prepared by Frank H. Netter, M.D., and edited by Ernst Oppenheimer, M.D., Commissioned and published by Ciba Pharmaceutical Products, Inc., Summit, New Jersey, 1954. 286 pages, $13.00.

CITY OF HOPE, THE. **Samuel H. Golter.** G. P. Putnam's Sons, 210 Madison Ave., New York, N. Y., 1954. 177 pages, $3.50.

CONGENITAL SYPHILIS. David Nabarro, M.D., F.R.C. P., Consulting Pathologist, formerly Director of the Pathological Department and Medical Officer in Charge of the Venereal Disease Clinic, Hospital for Sick Children, London. Edward Arnold, Publishers, Inc., London. Distributed by Williams and Wilkins Co., Baltimore, 1954. 470 pages, $10.00.

CULTURAL DIFFERENCE AND MEDICAL CARE—The Case of the Spanish-Speaking People of the Southwest. Lyle Saunders, Associate Professor of Preventive Medicine and Public Health (Sociology), University of Colorado, School of Medicine. Russell Sage Foundation, 505 Park Avenue, New York 22, N. Y., 1954. 317 pages, $4.50.

DIAGNOSTIC ADVANCES IN GASTROINTESTINAL ROENTGENOLOGY — Selected Methods, with Clinical Evaluation. Arthur J. Bendick, M.D., Director of Radiology, Beth Israel Hospital, New York. Grune & Stratton, New York, 1954. 131 pages, $6.00.

EMERGENCIES IN MEDICAL PRACTICE — 4th ed. Edited by C. Allan Birch, M.D., F.R.C.P., Physician. Chase Farm Hospital. E. & S. Livingstone, Ltd., London. Distributed in U.S.A. by Williams and Wilkins Company, Baltimore, Maryland, 1954. 610 pages, $7.00.

HANDBOOK OF MEDICAL TREATMENT—4th ed. Edited by Milton J. Chatton, A.B., M.D., Director of Medical Institutions, Santa Clara County, California, Assistant Clinical Professor of Medicine; Sheldon Margen, M.A., M.D., Associate Research Biochemist, Clinical Instructor in Medicine; and Henry D. Brainerd, A.B., M.D., William Watt Kerr Associate Professor of Clinical Medicine; All from the University of California School of Medicine. Lange Medical Publications, P.O. Box 1215, Los Altos, 1954. 569 pages, $3.00.

HISTORY AND CONQUEST OF COMMON DISEASES, THE. Edited by Walter R. Bett, M.R.C.S., L.R.C.P., F.R. S.L., F.S.A. Scott. University of Oklahoma Press, Norman, Okla., 1954. 334 pages, $4.00.

HYPERTENSION—Humoral and Neurogenic Factors—Ciba Foundation Symposium. Edited by G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., and Margaret P. Cameron, M.A., A.B.I.S. Little, Brown and Company, Boston, 1954. 294 pages, 73 illustrations, $6.75.

INTERN'S MANUAL (Cook County Hospital). Arthur Bernstein, M.D., Assistant Medical Superintendent Cook County Hospital, Clinical Associate Professor of Medicine, University of Illinois College of Medicine. The Year Book Publishers, Inc., 200 E. Illinois St., Chicago, 1954. 292 pages, $3.00.

LEAVES FROM A DOCTOR'S DIARY. Edith E. Johnson, M.D., Pacific Books, Box 558, Palo Alto, 1954. 279 pages, $3.50.

PEDIATRIC DIAGNOSIS. Morris Green, M.D., Assistant Professor of Pediatrics, Yale University School of Medicine; and Julius B. Richmond, M.D., Professor and Chairman of the Department of Pediatrics, University of New York College of Medicine. W. B. Saunders Company, Philadelphia, 1954. 436 pages, $10.00.

PSYCHOLOGICAL VARIABLES IN HUMAN CANCER, THE—A Symposium. Presented at the Veterans Administration Hospital, Long Beach, California, October 23, 1953. Edited by Joseph A. Generelli, Professor of Psychology, University of California at Los Angeles, and Frank J. Kirkner, Chief Clinical Psychologist, Veterans Administration Hospital, Long Beach, and Associate Clinical Professor of Psychology, University of California at Los Angeles. University of California Press, Berkeley 4, Calif., 1954. 135 pages, $3.00.

REVIEW OF MEDICAL MICROBIOLOGY. Ernest Jawetz, Ph.D., M.D., Professor of Bacteriology and Lecturer in Medicine and Pediatrics, University of California School of Medicine; Joseph L. Melnick, Ph.D., Professor of Epidemiology, Yale University School of Medicine; and Edward A. Adelberg, Ph.D., Assistant Professor of Bacteriology, University of California. Lange Medical Publications, P. O. Box 1215, Los Altos, 1954. 360 pages, $4.50.

ROLE OF THE PITUITARY IN CANCER, THE—The Clinical Value of Pituitary Lipid Treatment. Henry K. Wachtel, M.D., Scientific Director of the Chemical Hormone Corporation, New York. The William-Frederick Press, 313 West 35th Street, New York 1, N. Y., 1954. 31 pages, $2.00.

SMOKING AND CANCER—A Doctor's Report. Alton Ochsner, M.D., Julian Messner, Inc., New York, N. Y., 1954. 86 pages, $2.00.

SPORTS INJURIES—Prevention and Active Treatment. Christopher Woodard. Honorary Consultant to British Olympic Teams, 1948 and 1952. Max Parrish and Company, Ltd., London. Distributed in U.S. by Track & Field News, P.O. Box 296-U, Los Altos. 128 pages, $3.00.

SKIN, THE—A Clinicopathologic Treatise. Arthur C. Allen, M.D., Associate Pathologist, Memorial Hospital, Associate Professor of Pathology, Cornell University Medical School, New York. The C. V. Mosby Company, St. Louis, 1954. 1048 pages, 495 full-page illustrations, $25.00.

STANDARD VALUES IN NUTRITION AND METABOLISM. Edited by Errett C. Albritton, A.B., M.D., Fry Professor of Physiology, The George Washington University. Prepared under the direction of the Committee on the Handbook of Biological Data, American Institute of Biological Sciences, The National Research Council. W. B. Saunders Company, Philadelphia, 1954. 380 pages, $6.50.

STUDY OF THE BRAIN, THE—A Companion Text to the Stereoscopic Atlas of Neuroanatomy. Hyman S. Rubinstein, M.D., Ph.D., D.A.B.P.N., F.A.P.A., Attending Physician in Neurology and Psychiatry, United States Army Hospital, Aberdeen Proving Ground. Grune and Stratton, New York, 1953. 209 pages, $9.50.

SURGERY OF THE CAECUM AND COLON. Stanley Aylett, M.B.E., M.B., B.S., B.Sc., F.R.C.S., Surgeon, Westminster Hospital Teaching Group, Teacher in Surgery, University of London. E. & S. Livingstone, Ltd, London, 1954. Distributed by Williams and Wilkins Co., Baltimore, 295 pages, $9.00.

SYNOPSIS OF OBSTETRICS AND GYNAECOLOGY, A —11th ed. Aleck W. Bourne, M.A., M.B., B.Ch.(Camb.), F.R.C.S.(Eng.), F.R.C.O.G., Consulting Gynaecologist, St. Mary's Hospital, London. John Wright & Sons Ltd., Bristol, 1954. Distributed by Williams and Wilkins Co., Baltimore. 536 pages, $5.00.

THIS PACE IS NOT KILLING US. J. I. Rodale; Rodale Books, Inc., Emmaus, Penn., 1955. 64 pages, $1.00.

THREE "INCARNATIONS". Florence Sylvester Winchell, M.D., The Christopher Publishing House, Boston 20, Mass., 1954. 268 pages, $3.50.

UROLOGY—Vols. I, II and III. Edited by Meredith Campbell, M.S., M.D., F.A.C.S., Emeritus Professor of Urology, New York University; with the collaboration of 51 contributing authorities. W. B. Saunders Company, Philadelphia, 1954. 2356 pages, plus 64 pages of index, and 1148 figures. $60.00 per set.

WHEN MINDS GO WRONG—The Truth About Our Mentally Ill and Their Care in Mental Hospitals. John Maurice Grimes, M.D., formerly staff member of the council on medical education and hospitals, American Medical Association. The Devin-Adair Company, 23 East 26th Street, New York 10, New York, 1954. 246 pages, $3.50.

YEAR BOOK OF OBSTETRICS AND GYNECOLOGY, THE—1954-1955 Series. Edited by J. P. Greenhill, B.S., M.D., F.A.C.S., Professor of Gynecology, Cook County Graduate School of Medicine. The Year Book Publishers, Inc., 200 East Illinois Street, Chicago, 1954. 544 pages, $6.00.

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1. McHardy and Browne: Sou. Med. J. 45:1139, 1952. 2. Lorber and Shay: Fed. Proc. 12:90, 1952.

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(Continued from Front Advertising Section Page 62)

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Five patients have been treated by this method. Two of these patients died of other serious accident injuries, but the technique was successful in aiding their breathing. Two patients recovered completely without after-effects. A fifth patient was successfully treated in this way after the physicians wrote their report for a recent issue of the *Journal of the American Medical Association.*

Dr. Hinman Joins A.M.A. Staff

Dr. John Hinman, of San Francisco, who was formerly on the staff of the Joint Commission on Hospital Accreditation, has been appointed assistant director of the division of hospitals and graduate education of the A.M.A. Council on Medical Education and Hospitals. Dr. Hinman will assist Dr. Edward H. Leveroos in the residency review program and will be directly responsible for the registration of technical schools and other activities.

—*The A.M.A. Secretary's Letter*

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*Bibliography of 192 references available on request.

1. Coles, B.L., and James, U.: The Effect of Cobalt and Iron Salts on the Anaemia of Prematurity, Arch. Disease in Childhood *29*:85 (1954).
2. Holly, R.G.: The Value of Iron Therapy in Pregnancy, Journal-Lancet *74*:211 (June) 1954.
3. Quilligan, J.J., Jr.: Effect of a Cobalt-Iron Mixture on the Anemia of Prematurity, Texas St. J. Med. *50*:294 (May) 1954.

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Examinations Could Reduce Top Causes Of Blindness

Eye tests for all children about their third birthday and regular examinations for older persons are "the only hope" of preventing the two greatest causes of blindness in the United States, a Boston physician said recently.

Dr. Trygve Gundersen, an ophthalmologist, said early detection is essential in reducing cases of glaucoma and amblyopia ex anopsia. He said an estimated 1,130,000 persons have unrecognized glaucoma and perhaps more than a million are blind in one eye from disuse. How many of the glaucoma patients may become totally blind cannot be estimated, but the number "must be high," he said. Many of the disuse patients can live with no great handicap—but would be completely sightless if injury or disease blinded their one good eye.

Glaucoma is a disease marked by strong pressure inside the eye which hardens it and produces a dull gray appearance. Amblyopia ex anopsia is a dimness of vision resulting from long disuse of the eye, which shows no visible impairment. It most frequently occurs among children with strabismus, or crossed eyes.

Both of these conditions are preventable to a large degree, he said, and the problem is primarily one of detection. Dr. Gundersen suggested eye tests for children on or just before the age of three, at which time amblyopia can be diagnosed and treated, and eye tests as part of routine physical examinations among persons over 30, the most frequent sufferers from glaucoma.

Dr. Gundersen's report appeared in a recent issue of the *Journal of the American Medical Association.*

Fellowship Stipends Not Taxable, Court Rules

In a decision affecting 32,000 foundations and many thousands of physicians, scientists, and scholars, the Tax Court of the United States has held that research and study grants from philanthropic organizations are not taxable. The decision, which reverses a 1951 finding of the Commissioner of Internal Revenue, holds that fellowships are gifts, and therefore are not taxable as income. Previously, grants were regarded as income, and taxable as such. The Tax Court ruling came as the result of a test case brought by George Winchester Stone, Jr., a Washington, D. C., professor, in regard to a Guggenheim Foundation literature grant.

—*A.M.A. Washington Letter*

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Cheney, M. C.: GP 10: 32 (July) 1954.

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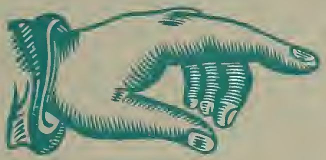

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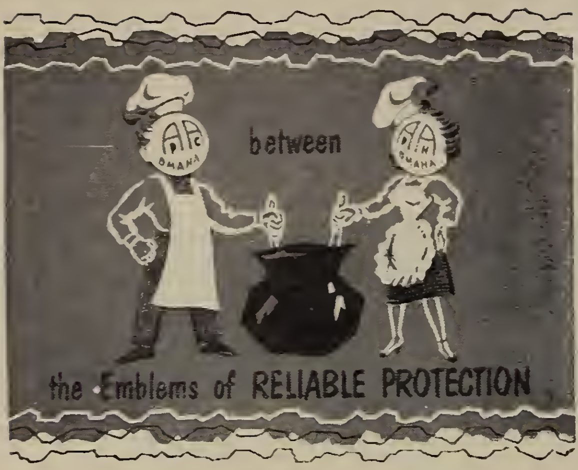
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Pre-Crisis Surgery Prevents Some Heart Failure

The difference between life and death in a certain heart disease can depend on less than a thimbleful of blood a minute, which now can be supplied by the heart itself with the help of surgery.

Two Cleveland physicians recently said the "revascularization" operations can be performed on selected patients with coronary artery disease.

Drs. Claude S. Beck and David S. Leighninger, Western Reserve University School of Medicine, said a "small beginning" for prevention of degeneration of the arteries has been made in the experimental laboratory. In the meantime, some lives can be prolonged in spite of defects. Operations for accomplishing this help the heart to recover after clotting in a major artery, which without surgery usually causes heart failure.

The physicians, who began their work in the revascularization approach to heart disease in 1932, performed 4,000 to 5,000 experimental operations on animals and later 186 operations on patients. A follow-up study of 25 patients showed mortality rates were improved and four out of every five patients who survived had complete or marked reduction of pain. They also were better able to work afterwards.

The physicians explained that in occlusive disease heart failure death is either mechanical or muscular. In muscular failure, the blood supply shortage causes damage to the heart muscle. In mechanical failure, however, the heart would be capable of functioning but fails because impaired circulation to the conducting mechanism interrupts the coordinated heartbeat.

It is the mechanical type of heart failure which strikes "a vast segment of our population" and which can be surgically prevented, they said. Although surgery cannot actually stop the occlusive process, it can provide the small quantity of blood which protects the coordinating mechanism and saves life.

The physicians said they found less than a thimbleful of blood a minute could be sufficient for protection. Improved circulation for providing this amount could be achieved either by adding blood from outside sources or by improved distribution of blood in short supply. They developed two operations for achieving improved circulation. In one, the heart is stimulated by an irritating agent such as powdered asbestos, and tissue and fat are grafted to the heart surface. In the other operation a vein graft is connected to a channel leading into the heart and the channel is later pinched in to raise pressure.

The techniques are actually ways of helping the heart in its own attempts at defense against occlusive disease. Diseased hearts ordinarily try to develop additional circulation themselves, but sometimes this development is slower than the progression of

(Continued on Page 84)

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CLASSIFIED ADVERTISING

(Continued from Page 72)

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Lower Hypertension Rates Due to Diet, Not Society

The lower incidence of high blood pressure in certain native tribes is not necessarily due to the primitive life being simpler than ours.

It might partly be because the habit of automatically sprinkling salt on food before tasting it is common only in western societies, two Brookhaven National Laboratory physicians said recently. However, they noted that high salt intake is not sufficient to cause hypertension unless certain other factors also are present.

Drs. L. K. Dahl and R. A. Love, Upton, N. Y., reported they studied 1,444 persons of whom 163 never salted food at the table, 645 salted food only if it tasted unsalty, and 636 salted everything without tasting it first.

Only one in the first group was found to be hypertensive, while 47 of the average group and 64 of the high-salt-intake group had high blood pressure.

They said the intake of the low-salt group was almost as low as that of the Greenland Eskimos, Australian aborigines, mountainous Chinese tribes and the Cuna Indians of Panama. These peoples have been found to be virtually without any cases of hypertension. This sometimes has been attributed to their "simple" lives, but some authorities doubt that primitive life is so much simpler than ours and Drs. Love and Dahl suggested that low salt intake may have more to do with their lack of hypertension.

They said their study was prompted by the discovery that among 28 consecutive hypertensive patients only one denied ever adding salt to food. With the aid of the Atomic Energy Commission, they studied every member of the laboratory staff who reported for a physical examination.

They pointed out that the study does not establish a definite cause-and-effect relationship but suggests that salt is one of several factors "necessary in appropriate combination" for the development of hypertension. They said more persons among the high-intake group were overweight than among the low or average salt-eaters. This could be because overweight persons may inherit both the tendency to heaviness and a greater susceptibility to the effects of salt, or that in eating more, they simply use more salt. It also could indicate that persons already hypertensive have a greater need for salt.

They concluded that while salt intake may be an essential factor in high blood pressure, it alone is not enough to cause the disease. The report was made in a recent issue of *Archives of Internal Medicine,* published by the American Medical Association.

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Pre-Crisis Surgery Prevents Some Heart Failure

(Continued from Page 80)

the disease. An operation performed before the disease reaches a crisis helps insure the auxiliary blood supply.

For this reason, the operations can be done only on those patients whose vessels have become plugged but in whom an occlusion crisis has not occurred.

Best suited for the operation are lean persons in their 40s and 50s who have had the disease for a year or so, have pain, but are still able to get around. Patients with heart failure from degenerated heart muscle are not acceptable for operation.

The physicians said that in some patients, the disease may continue to progress—but the patient lives. Although he may be "worse clinically after operation . . . the operation saved his life."

In animal experiments performed before the operations were tried on patients, the doctors first performed the protecting surgery, then artificially produced a crisis. Most of the animals so treated were saved by the operation. As many as 70 per cent of unprotected dogs died.

An editorial accompanying the report, which appeared in a recent issue of the *Journal of the American Medical Association*, commended the experimental work and its results. It is said that "it is demonstrated beyond reasonable doubt" that additional blood can be supplied with surgical aid and that mortality can be reduced. It said the results, which are "promising," show that "the protections established in the experimental laboratory, where variables can be controlled, are being transferred to the human patient in an orderly and acceptable manner."

It said until prevention of occlusive disease is developed, this surgical method "seems to be a proved way of modifying its devastating effects. . . ."

New Evidence Reported on Blood Weakness

Military doctors have found evidence that air travel may be safer than previously believed for persons with an inherited weak blood factor.

Earlier reports indicated that persons with the "sickle-cell" trait, which includes about 7 per cent of all Negroes, are susceptible to damage to the spleen at high altitudes. Previous studies showed that the blood tends to develop more sickle cells as oxygen pressure thins at high altitudes. This results in plugging of the blood vessels, which leaves some areas of the spleen without enough blood. It causes abdominal pain, breathing difficulties, and other symptoms.

Three Army doctors and an American Cancer Society Clinical Fellow reported recently that it ap-

(Continued on Page 88)

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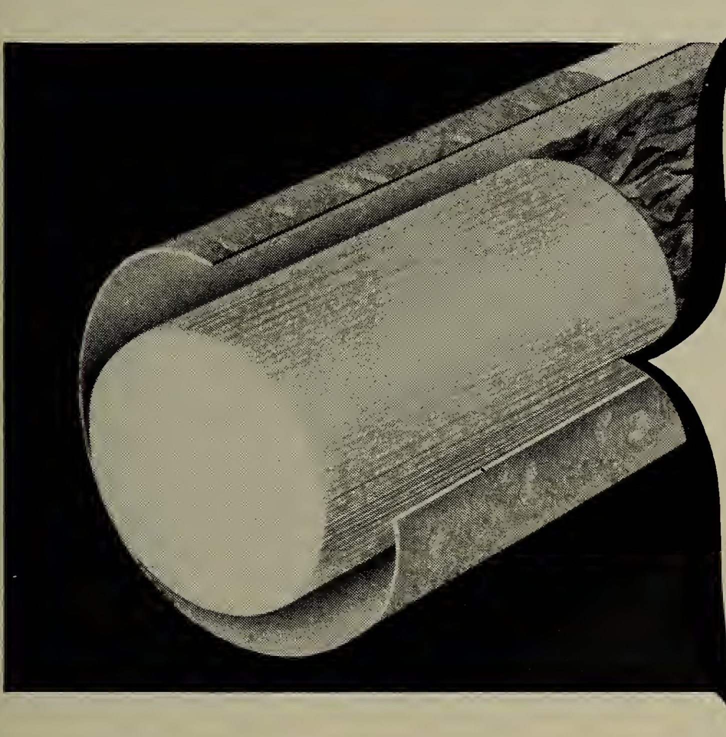

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New Evidence Reported on Blood Weakness

(Continued from Page 84)

pears another factor must be present before spleen damage will result from flying. They reported two cases of soldiers who suffered spleen disorder while flying at lower altitudes than were previously thought to cause difficulty. They said in these cases the damage apparently resulted because of a combination of the inherited sickle-cell trait and a certain type of hemoglobin.

This hemoglobin type C also depends on parental factors. They said the theory that both hemoglobin C and the sickle-cell trait must be present to cause spleen damage would clear up some confusion in earlier research; for instance, lack of any damage in known sickle-cell persons even under very high altitude conditions. If both the sickle-cell trait and hemoglobin C are prerequisites to splenic disorder at high altitudes, the number of persons susceptible to damage would be "substantially reduced," they said.

The report was made in a recent issue of the *Journal of the American Medical Association* by Capt. John P. Doenges, Major S. P. Wise III, and Capt. R. B. Breitenbucher, all Medical Corps officers of the United States Army Hospital, Fort Jackson; and Dr. Ernest W. Smith, Johns Hopkins Hospital, Baltimore.

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Reports on penicillin sensitization and reaction rates vary. Seal[1] reports an 0.34% rate of allergic reaction from *oral* potassium penicillin in more than 30,000 recruits at Great Lakes Naval Training Station during a streptococcus prophylaxis program. Berry and Fisher[2] found a reaction rate of 0.3% in 33,827 men at Sampson Air Force Base treated with *oral* crystalline penicillin. Welch[3] estimates a potential sensitivity rate of 10% in the total population.

With BICILLIN, clinicians note, not only the effectiveness, but also the infrequency and mildness of reactions to this new, long-acting penicillin compound; likewise, the rarity and transient nature of serum sickness or anaphylactic reactions. Thus, of 11,765 patients injected with single doses of from 300,000 to 2,500,000 units of BICILLIN, only 0.4% developed penicillin allergic reactions, limited almost entirely to simple urticarias.

1. Seal, J.R.: Oral penicillin prophylaxis of Epidemic Streptococcal Infections, Read before Epidemiology Section Meeting, American Public Health Association, Oct. 12, 1954.
2. Berry, C.A., and Fisher, J.: U.S. Armed Forces M.J. 5:1137 (Aug.) 1954.
3. Welch, H.: Principles and Practice of Antibiotic Therapy, New York, The Blakiston Co., 1954, p. 64.

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American Medical Association Bermuda-Nassau Cruise

The American Medical Association has completed arrangements for an outstanding Bermuda-Nassau cruise for physicians and their wives following the A.M.A. convention at Atlantic City, next June 6-10.

The party will sail from New York City at 7:00 p.m. on Friday, June 10, aboard the *Ocean Monarch*, the newest addition to the Furness Lines fleet. This palatial steamer was designed primarily for cruising and offers ample deck space, swimming pool, and beautiful public rooms. All staterooms on the *Ocean Monarch* are outside rooms. The first port of call is historic old St. George's, Bermuda, and an interesting shore excursion is included during the 30-hour visit. There will be a motor sightseeing trip, a visit to the Castle Harbour hotel for high tea, a shopping expedition, and time for individual plans. The second port of call will be colorful Nassau, capital of the Bahamas. Here, too, a sightseeing trip is part of the shore excursion as well as guest bathing privileges at either the regal British Colonial's salt air pool or private beaches. A dinner dance at the luxurious Continental Room of the British Colonial brings the Nassau visit to a climactic close.

The entire cruise is but eight days in duration and the *Ocean Monarch* on the return voyage docks in New York at 9:00 a.m. on Saturday, June 18.

Of real importance is the fact that all of the choice space on the *Ocean Monarch* is being held for the American Medical Association. However, the Furness Lines request that all unreserved space be released to them at an early date, thereby suggesting that reservations be made immediately as there is little doubt that the A.M.A. can fully take up the available accommodations now though they might not be available at a later date.

The trip is being handled by W. M. Moloney, general agent for the Chicago, Burlington and Quincy Railroad, who planned and supervised the A.M.A. trip to Hawaii following the San Francisco meeting last June. A descriptive booklet and reservation blanks on the Bermuda-Nassau Cruise may be obtained from him. His address: W. M. Moloney, Chicago, Burlington and Quincy Railroad, Bankers Building, 105 West Adams Street, Chicago.

For those who prefer a more elaborate and longer trip after the Atlantic City meeting, the A.M.A., in conjunction with the United Air Lines, has arranged an attractive tour to Europe. The announcement on this trip, covering seven countries, was carried in my Letter No. 302 on October 5.

—The A.M.A. Secretary's Letter

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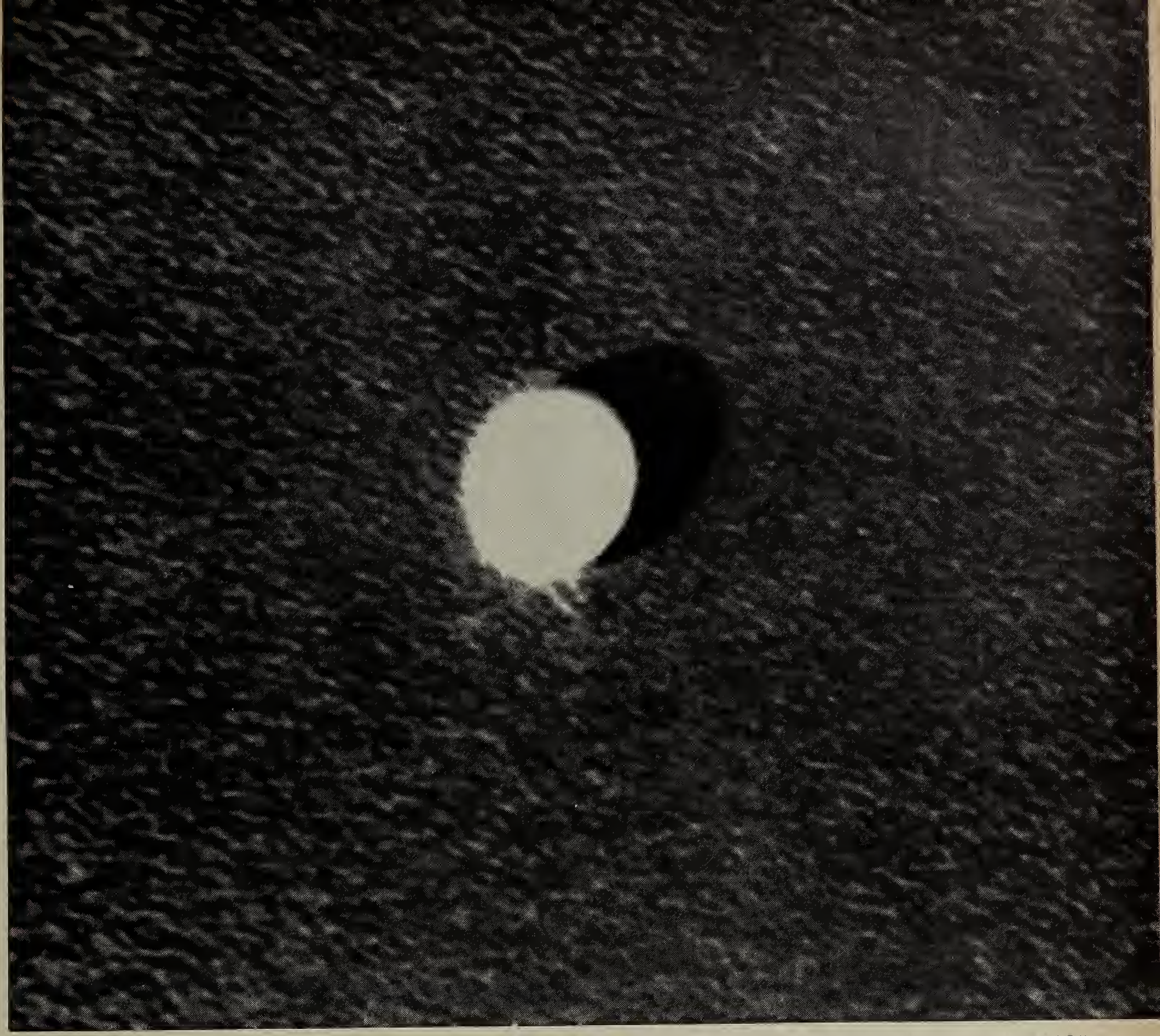

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New Drug Helps Patients with Breathing Trouble

Patients with a lung condition which makes breathing and exercise difficult were helped by a new drug which changes the lungs' carbon dioxide content, three California physicians said recently.

Drs. Charles L. Heiskell, Jr., Jay B. Belsky and Benjamin F. Klaumann, Long Beach, reported on the new drug, acetazoleamide, or Diamox (Lederle), in a recent issue of the *Journal of the American Medical Association.*

They said chronic emphysema of the lungs, a swelling or inflation due to extra air in the spaces between connective tissue, has long been a treatment problem, especially when accompanied by heart trouble. The major difficulty has been that the air sacs in the lungs retained excessive carbon dioxide and thus impaired ventilation. Exercise put an additional burden on the lungs and caused a further increase in carbon dioxide. This also altered the carbon dioxide content of the blood. This upset in chemical balance is called acidosis, and in severe cases it is sometimes termed "acid intoxication."

The physicians said the balance could be restored by making the body eliminate more sodium, potassium, bicarbonate, and water, and less ammonia. Earlier investigations indicated that Diamox, like the sulfa drugs to which it is related, should do this.

The California physicians tested Diamox on four patients who had chronic emphysema. A fifth patient, convalescing from an infection and not suffering emphysema, was treated with Diamox for comparison purposes.

The patient who previously had had the least breathing difficulty and exercise limitations, and the patient without emphysema, noticed no effects from the drug. One patient who had been using an oxygen mask almost continuously with rest periods of no more than 10 minutes, was able to cut oxygen use in half and do without it for longer periods. Two other patients, who for several months before had been unable to walk more than 50 to 100 feet without resting, were able to walk several blocks without breathing difficulty.

Tests showed the drug did increase sodium and potassium excretion and decrease ammonia excretion as had been hoped. The physicians said they reached no "definite conclusions" about the mechanics of the improvements. However, they said they thought emphysema patients probably have normal carbon dioxide levels while at rest but that exercise causes a sharp increase which hampers breathing. They said Diamox, by further lowering the at-rest carbon dioxide levels, gives the patients a greater "respiratory reserve" to draw on while exercising.

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Eyestrain May Not Be Caused by Defects

Eyestrain, and the bleary look that sometimes goes with it, may be a product of civilization and not of disease or defect.

An item in a recent issue of the *Journal of the American Medical Association* said that eyestrain is considered to be mostly muscle fatigue, resulting not so much from total expenditure of energy as from constant shifting and changing adjustments in a "futile groping" after a perfect picture.

Biologically the eyes were adapted "for relatively simple purposes—to look for enemies and for food," a consultant said in answer to a query to the *Journal.* Although the conditions in which we live today are accepted as normal, the eyes may not have evolved enough to meet the demands of "unremitting close work imposed on them by a highly complex and artificial civilization."

Some eyestrain is due to the tiring of higher perceptual processes, such as interest and attention, and some is mental-emotional rather than biological.

"Many a patient with bitter complaints concerning eyestrain and difficulty in carrying out the day's activity is but manifesting his hostility to his work, his home, or other factors beyond his control," the consultant said.

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Surgical Technic, Surgical Anatomy and Clinical Surgery, Four Weeks, March 7
Surgical Anatomy and Clinical Surgery, Two Weeks, March 21
Surgery of Colon and Rectum, One Week, February 28
Basic Principles in General Surgery, Two Weeks, March 28
General Surgery, One Week, February 14; Two Weeks, April 25
Gallbladder Surgery, Ten Hours, April 11
Fractures and Traumatic Surgery, Two Weeks, March 14
GYNECOLOGY—Office and Operative Gynecology, Two Weeks, February 14
Vaginal Approach to Pelvic Surgery, One Week, February 7.
OBSTETRICS—General and Surgical Obstetrics, Two Weeks, February 28
MEDICINE—Two-Week Course, May 2
Electrocardiography and Heart Disease, Two Weeks, March 14
Gastroenterology, Two Weeks, May 16
Gastroscopy, Two Weeks, March 21
Dermatology, Two Weeks, May 9
RADIOLOGY—Diagnostic Course, Two Weeks, February 28
Clinical Uses of Radio Isotopes, Two Weeks, April 25
Radium Therapy, One Week, May 23
PEDIATRICS—Intensive Course, Two Weeks, April 4
Clinical Course, Two Weeks, by appointment
Cerebral Palsy, Two Weeks, June 13
UROLOGY—Two-Week Urology Course, April 18
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German Physicians Living in U. S. Now Subject to Doctor Draft

Physicians who are nationals of Germany and have been admitted to this country for permanent residence must now register under the Doctor Draft Act. Selective Service headquarters said the requirement applies to those doctors who had not yet reached their 50th birthday on January 15, 1951. However, the prohibition against calling of any physician 51 years or older for service will apply to German nationals, too. Selective Service action stems from the expiration of a provision in a pre-World War II U. S.-Germany treaty exempting nationals of each country from military service while living in the other country.

The United States has treaties or international agreements with 17 other countries containing reciprocal provisions of exemption from military duty. They are Argentina, Austria, Costa Rica, China. El Salvador, Estonia, Honduras, Ireland, Italy, Latvia, Liberia, Norway, Paraguay, Spain, Switzerland, Thailand, and Yugoslavia.

Under terms of the Doctor Draft Act amendment of June 1953, the way was cleared for drafting of aliens. The law states that a registrant under the act is no longer held ineligible for appointment as an officer on the sole ground he is not a citizen of the United States or has not made a declaration of intent to become a citizen.

—*A.M.A. Washington Letter*

Child Accident Prevention Needs Outlined

Accident prevention habits, like good manners, are a form of behavior and can be made a deep-rooted part of a child's nature, two Cleveland physicians said recently.

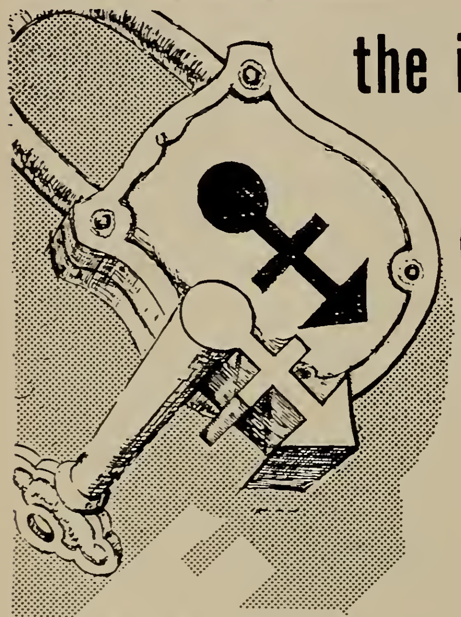
Drs. Ralph I. Fried and William W. Herman reported in a recent issue of the *Journal of the American Medical Association* on their work with a committee on accident prevention in children.

One of the major goals of the program was to teach parents, particularly by their family doctors, that if a child is taught accident control early "he conducts himself all through his life with a minimum of risk, effortlessly and naturally."

"When a child learns that his parents' love and affection will not permit him to do any truly injurious act, he becomes more convinced of that love than by any other parental act," they said. "The knowledge he acquires from their educational efforts augments his self-confidence so that, if the whole idea is intelligently and quietly applied, his sense of security becomes deeply rooted."

The prevention committee started its work by gathering previously unavailable statistics on childhood accidents. They found that an estimated 35,000 accidents requiring hospitalization occurred during one year among children under 14 years old.

(Continued on Page 106)



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Child Accident Prevention Needs Outlined

(Continued from Page 102)

The survey showed 60 per cent of all accidents happened in the home. Home accidents accounted for 93 per cent of all in children under one year old, 76 per cent in children one to five, and 41 per cent in children six to 14. Forty-four per cent of all occurred from May through August. Sixty-seven per cent were falls that produced fractures, lacerations and bruises; dog bites, auto accidents, poison, swallowed foreign objects, and bicycles or skates accounted for 3 to 5 per cent each.

The committee's accident-prevention program included use of the health nursing program for educating parents; a speakers bureau; radio and television publicity, and child safety legislation work. It also lobbied for ordinances to require removal of unused iceboxes from places where children might crawl into them.

They said such a program not only will decrease accidents "but will improve almost every facet of child-parent relationship—the very essence of pediatrics and in every sense the foundation structure of civilization."

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Medical Education Seen at Crossroads

America's medical schools face a crisis which can only be resolved by increased public interest and support, according to a 25-cent pamphlet, "The Challenge to Medical Education," just published by the Public Affairs Committee, 22 E. 38th Street, New York City.

Chancellor Henry T. Heald of New York University in an introduction calls attention to one of the main challenges faced by these "complex centers for training" by pointing out that "doctors are called up less and less to heal the sick and more and more to keep people well. Medical education must not only keep abreast of society's needs: it must anticipate them."

"In many ways, the medical establishment of our nation is stronger than it ever has been before," declares the author, Robert M. Cunningham, editor of *Modern Hospital*. "Every year, more doctors care for more people, using more buildings, equipment, supplies, and helpers than in the year before. Year after year, new hospitals are built, offering their new facilities and their trained staffs for use by the medical profession.

"Nevertheless," he adds, "a threat to the nation's health does exist—the more serious because it lies hidden behind the spectacular medical achievements of our time and because it is a danger not so much to our present strength as to our future growth.

"The danger is that our great medical schools—the source of our supply of doctors and the medical advances of tomorrow—may not find the money and manpower to keep growing . . . as the body of our medical knowledge expands year after year," Mr. Cunningham asserts.

"By any estimate," he continues, "medical education is far more costly than education in most of the other professions. . . . No other kind of education requires so much laboratory space and equipment and so much money to support the all-important dispensary and hospital services for clinical instruction"

Since the average medical student can afford to pay only about one-fifth of the cost of his training, the schools must find additional sources of support to offset the increasing costs resulting from modern scientific advances.

"Plainly, more and more groups must accept an increased share of responsibility for the support of medical education," Mr. Cunningham writes, "if we expect the schools to perform fully and effectively in the future."

The price of this pamphlet is 25 cents, and may be obtained through the Public Affairs Committee, 22 East 38th Street, New York City.

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Richest Source of Vitamin C Now Ready for World

A neglected backyard tree is about to give to the world its "richest known source of vitamin C" and to Puerto Rico a possible answer to its old one-crop economy problem.

After almost 10 years of efforts by scientists to interest "the giants of the food industry" in the potentialities of the "fantastic" acerola tree, the first commercial crop finally has been produced and is ready for the market.

The fruit is known as Puerto Rican cherry, West Indian cherry, acerola, or several other names. The tree grows semi-wild in the Caribbean islands where natives say a tree in the back yard will "keep colds out of the front door."

And a six-ounce glass contains as much as 8,650 milligrams of vitamin C—more than 85 times as much as a six-ounce glass of fresh orange juice. It would take over 50 pounds of fresh raw cabbage to give the same amount of vitamin C as a glass of acerola juice.

The fruit is the size of an ordinary red cherry but is shaped more like a crab apple. Its taste is "tart and refreshing" and the tree bears four crops a year.

How the tree finally was developed commercially is told by Mrs. Anna May Wilson in a recent issue of *Today's Health* magazine, published by the American Medical Association. Her husband, Dr. James R. Wilson, director of the A.M.A.'s Council on Foods and Nutrition, was the man who interested orange juice millionaire Harvey Greenspan, Miami, in the acerola.

The fruit's amazing vitamin value was first discovered in 1945—almost accidentally—by Dr. Conrad F. Asenjo, while doing research on the vitamin content of various native Puerto Rican fruits. The tests showed him and his co-workers that "here was a fantastically rich, natural source of a health-promoting vitamin needed daily by everyone. It was available from a neglected, unappreciated, almost forgotten backyard tree. . . . Here—maybe—was a new and valuable cash crop for their little country, whose burden had ever been the worry of a one-crop economy, sugar cane."

Dr. Asenjo published his results but no one was interested until 1949 when Greenspan learned of it. He backed the planting of the first orchard, which produced its first harvest this spring after an expenditure of a quarter million dollars on the project. The experimental work and clinical testing are completed.

"The first use of C-rola juice will be in infant food," Mrs. Wilson said. "Desirable variety will be added to many a baby's diet by the addition of this natural protective food to such things as apple juice or pear juice. Next perhaps will be the enrichment of soft drinks not with chemicals but with a pure nutritious fruit juice in quantities so small that no flavor change will be noticed. The possibilities seem endless."

Prostate Gland Removal Raises Survival Rate

Complete removal of the gland in men with early cancer of the prostate gives them survival chances almost as high as that for all other men of the same age, a Johns Hopkins Hospital survey shows.

A study of patients treated by this operation in the last 50 years showed that 49 per cent of the patients whose cancer was detected in the early stage lived 10 years or longer, compared with 53 per cent of other men of the same age in the general population.

Dr. Hugh J. Jewett, Baltimore, said the study shows that so far no better treatment has been found for cancer of the prostate. And he said annual examinations for men over 50 years old should result in finding a large percentage of such cancers while they are still in the early, operable stages.

Dr. Jewett reported on the long follow-up study in a recent issue of the *Journal of the American Medical Association.* He said cancer of the prostate is the most common type of cancer among men and is responsible for 11.8 per cent of all deaths from malignant disease annually in the United States. Its incidence in men over 50 years of age is probably no less than 14 per cent.

Between 1904 and 1954 complete removal operations have been performed on 357 patients at Johns Hopkins, 320 of whom have been studied, he said. In 1949 a study showed that of 127 patients operated on, 48 per cent lived five years after operation. A 1953 study showed 25 per cent lived 10 years or more. Patients whose cancers had been found in the early stages had better chances than those whose disease had spread before the operations were performed.

From 1943 to 1954, 200 operations were done, with only a 3 per cent mortality. In the hospital's private service, there have been no deaths in 11 years, while the last 100 patients operated on since 1949 all survived. Their average age at operation was 60 years.

Dr. Jewett said manual examination of the prostate gland is still the best method of screening patients over 50 and should result "in detection of a high percentage of patients suitable for the radical operation." He said in the Army, routine prostate gland examination of men over 40 years has led to an operability rate of 54.5 per cent.

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Wire Mesh Replaces Part of Abdominal Wall

A piece of fine wire mesh, made of rare tantalum metal, was used to replace an extensive section of abdominal wall removed by surgery, two physicians have reported.

The tissue around the mesh healed and grew into it like "the threads of a piece of tapestry," Drs. William Wickman, Miami, and Timothy A. Lamphier, Boston, said.

The tantalum mesh is nonirritating, flexible, easy to work with, and resists infection. The mesh creates strong support in place of missing tissue because the remaining tissue grows into it, they said in a recent issue of *Archives of Surgery*, published by the American Medical Association.

Tantalum, a rare metal element, has been used for plates or disks to replace skull defects caused by wounds. Drs. Wickman and Lamphier used the mesh in a patient from whom a tumor about the size of a grapefruit had been removed from the abdominal section. They said the technique could be particularly useful in surgery of tumors and cancerous growths where removal must be extensive to prevent recurrence but where strong support is needed to prevent hernia. Their patient was able to go back to work in six months with little after-effect.

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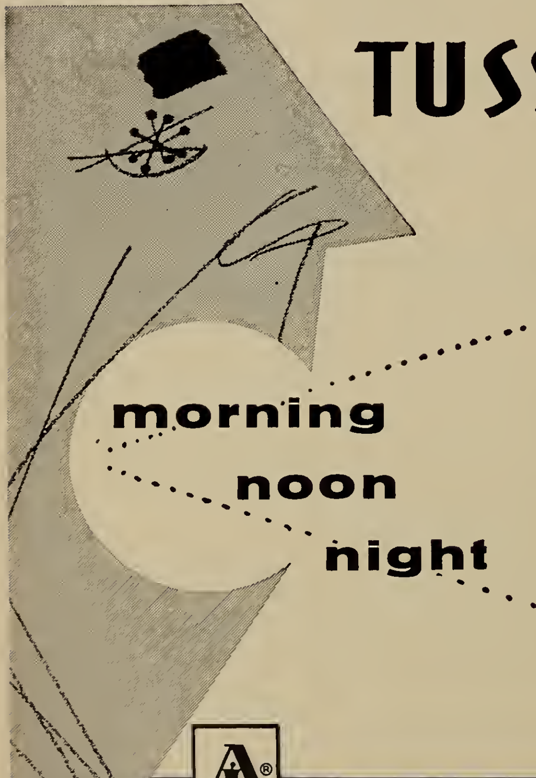

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Defense Announces Residency Deferment For 300 Physicians

A total of 300 interns have been selected by the Defense Department for deferment for one-year residencies in 15 medical specialties essential to the military departments. The names were drawn by lot from among more than 1,300 nonveteran interns who asked for further deferment under the new Armed Forces Reserve Officer Commissioning and Residency Consideration Program announced last September.

Dr. Walter B. Martin, president of the American Medical Association, made the initial drawings during ceremonies in the office of Dr. Frank B. Berry, Assistant Secretary of Defense (Health and Medical). The first name drawn was that of Dr. William F. Reus, Jr., University of Michigan Hospital at Ann Arbor, who plans a residency in surgery and expects to take a reserve commission in the Air Force.

Under the Defense Department-Selective Service program, questionnaire statements of service preference were sent all 1954 medical school graduates who had been deferred from induction to complete their medical education plus one year's internship. Of the more than 1,800 replies, some 1,300 asked for residency deferment, while 560 preferred to accept reserve commissions and enter their two-year tour of duty within the year following completion of internships next spring.

The 300 physicians selected for residency deferment in the hospital of their choice are to be divided equally between the Army, Navy and Air Force reserves. The remaining 1,000 interns who failed to be selected are subject to induction after next June under either the regular draft or the doctor draft, depending on what action the next Congress takes on the law. Both the regular and the doctor drafts expire June 30. Dr. Berry said letters of notification have been sent all physicians concerned in the program.

—*A.M.A. Washington Letter*

American Medical Association Supports Major Medical Legislation

The American Medical Association supported 11 of the 15 major medical and allied subject bills enacted into law by the 83rd Congress, according to an editorial in a recent issue of the *Journal of the American Medical Association.*

The editorial said:

"During the past year or more the American public has become aware of the fact that the American Medical Association opposed the federal reinsurance proposal, disapproved of two provisions in the Social Security Act amendments, and disagreed with the government policy on the medical care for veterans with nonservice-connected disabilities. Unfortunately, however, the public is not equally aware that during that same period of time the A.M.A. was giving active support to a large number of constructive legislative proposals involving medicine and health. We believe, therefore, that some long-overdue attention should be paid to the positive side of the record.

"That record shows that the A.M.A. supported 11 of the 15 major medical bills that were enacted into law by the 83rd Congress. The association opposed only two of the 15, and took no stand on the other two. The 11 proposals that the A.M.A. favored and which became public law were as follows:

"Expansion of the Hill-Burton Hospital Construction Act to help finance the building of new nonprofit health facilities.

"Extension of the regular Hill-Burton Act to 1960.

"Lowering of the medical expense tax deduction from 5 per cent to 3 per cent.

"Extension of the 'Doctor-Draft' law to 1955.

"Establishment of the Department of Health, Education, and Welfare.

"Establishment of the Hoover Commission on Organization of the Executive Branch of the Government.

"Establishment of the Commission on Intergovernmental Relations.

"Transfer of the Indian Hospital and Medical Service from the Department of the Interior to the Public Health Service.

"Ban against the shipment of fireworks into states where their sale is illegal.

"A federal charter for the National Fund for Medical Education.

"Permission for oral narcotic prescriptions under certain conditions and limitations.

"In addition to those 11 measures, the A.M.A. also supported two major proposals that were not acted on by the 83rd Congress. These were the administration bill to streamline Public Health Service grants to the states and the Jenkins-Keogh bills to stimulate the establishment of private pension plans by self-employed persons and by employees without the protection of company plans.

"We may be indulging in a bit of wishful thinking, but it would be helpful if the American people had more knowledge of the fact that the A.M.A. every year supports constructive legislation. The positive side of the story may not have blood-and thunder news interest, but it spells out steady, continued progress in protecting the public health and welfare."

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1. MERLIS, S.: Diamox: A Carbonic Anhydrase Inhibitor—Its Use in Epilepsy. Neurology. 4:11, 863-866 November 1954.
2. BECKER, B.: Decrease in Intraocular Pressure in Man by a Carbonic Anhydrase Inhibitor, Diamox. Am. J. Ophth. 37:1, 13-15 January 1954

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Child's Deafness May Be "Convenient"

Some children may be like older persons who become conveniently "deaf" when they don't want to hear something.

Steven B. Getz, Ph.D., from the California School for the Deaf, Berkeley, said he has seen several children at the clinic who acted as if they had hearing impairments, but tests indicated there was nothing functionally wrong with their hearing.

He said these children had normal speech, and when an examiner stood 15 feet behind them and whispered the names of objects placed before them, the children quickly pointed to the right objects.

One 10-year-old girl, an adopted child, refused to cooperate at home and frequently said "What? What?" at home and in the classroom. But she quickly answered test questions asked in a normal voice.

Dr. Getz said her trouble was not with hearing but with "general resistance to intrafamily relations." Deafness in this type of case is "best understood as the mechanism whereby the person excludes, at convenient times, verbal communication," he said.

Dr. Getz described the cases in a recent issue of *Archives of Otolaryngology*, published by the American Medical Association.

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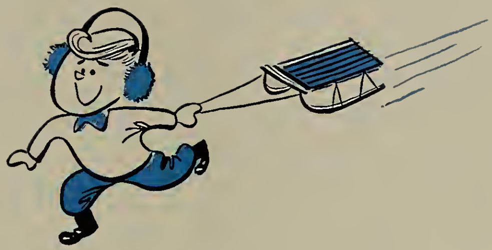

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Announce Health Plan Study

During the Miami meeting, the Board of Trustees announced appointment of a 13-member commission to make a comprehensive survey of the various types of plans through which the American people receive medical services.

The commission, which will begin work immediately, will be headed by Dr. Leonard W. Larson, Bismarck, N. D., a member of the Board of Trustees for five years.

Board Chairman Dwight H. Murray said that results of the survey, which will require at least a year to complete, will have a direct bearing on the improvement of health benefit plans now offered to the American people.

Dr. Larson said that "because of the great interest in medical care plans at present, on the part of physicians, the federal government, and the people, the A.M.A. has felt for some time that a complete factual study of all types of plans was needed."

The survey, he said, will include both medical- and lay-sponsored plans.

Besides Dr. Larson, the commission will be made up of the following:

Dr. David B. Allman, member of the Board; Dr. Homer L. Pearson, Jr., Miami, chairman of the Judicial Council; Dr. Joseph D. McCarthy, Omaha, Neb.; Dr. Percy Hopkins, Chicago; Dr. H. Russell Brown, Watertown, S. D.; House Speaker James R. Reuling, Bayside, N. Y.; Dr. H. Gordon McLean, Oakland, Calif.; Dr. John Conway, Clovis, N. M.; Dr. Frank J. Elias, Duluth, Minn.; Dr. Leo Price, New York; Mr. Jay Ketchum, Detroit; Dr. William P. Shepard, New York, and Dr. Norman A. Welch, Boston.

Dr. Larson said that the new commission will inquire into the nature and operation of medical service plans and the quality of medical care provided, as well as the legal and ethical status of the various arrangements now being used.

—The A.M.A. Secretary's Letter

Physicians Through 37 Being Examined For Doctor Draft

To meet the Defense Department call for 1,275 physicians for induction next March, draft boards have started processing men through the age of 37. Selective Service headquarters instructed boards to call up for examination those priority 3 physicians born on or after January 1, 1917, where previously the cutoff birth date was August 30, 1922. To meet Defense quota of 459 dentists in March, priority 3 registrants born on or after January 1, 1910, are being examined. In the case of both physicians and dentists, priority 1 of all ages and priority 2 men without restriction as to months of service also are being used for the March call.

—A.M.A. Washington Letter

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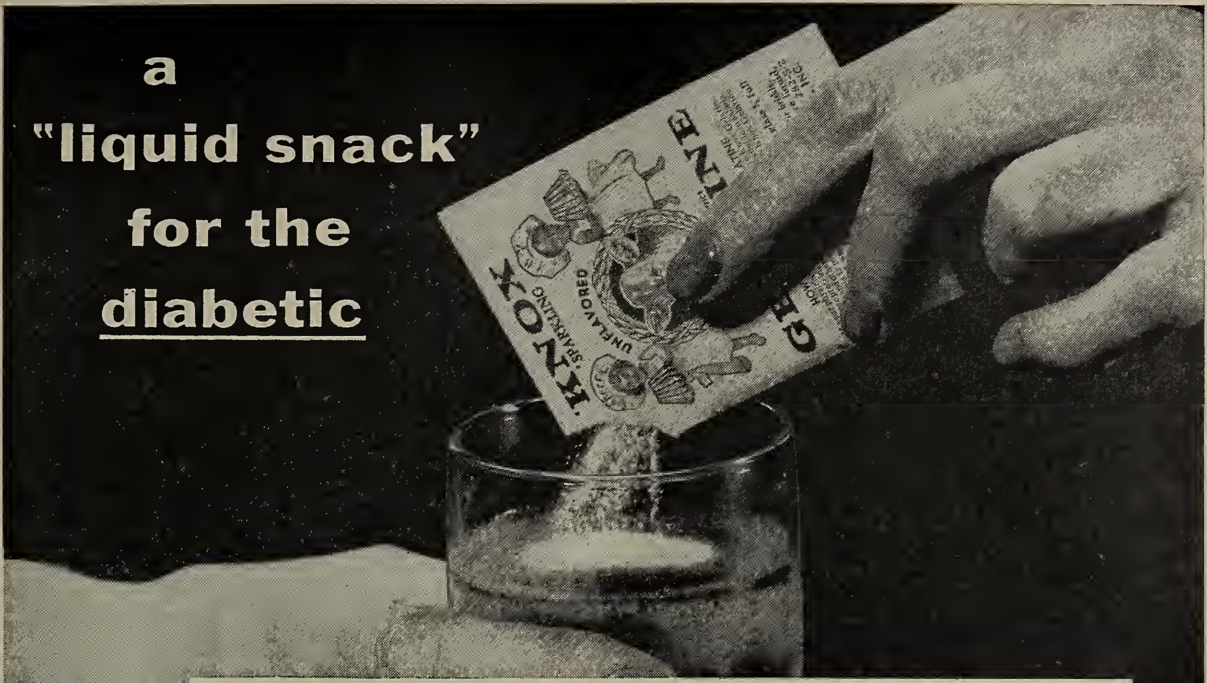
Reference: 1. Lehr, D., Present Status of Sulfonamide Therapy, Scientific Exhibit, San Francisco Session A.M.A., June 21-25, 1954.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Hypothermia May Help in Many Conditions

A University of Colorado professor of surgery has said that hypothermia, so-called "artificial hibernation," may someday be valuable in dozens of conditions from heart surgery to ulcers and severe infections.

Dr. Henry Swan said the theory behind the technique is a "romance in biology" and is part of a growing new concept of "great attractiveness" about the body's reaction to injury.

He said hypothermia someday may be used in such conditions as pneumonia and other pulmonary diseases, congenital heart disease, surgery of various kinds, massive skin grafting, internal bleeding, shock, heat stroke, and severe infection.

Dr. Swan made his report in an editorial in a recent issue of *Archives of Surgery*, published by the American Medical Association.

Hypothermia has been used mainly in heart operations to reduce bleeding. The patient enters a state simulating drugged sleep, with reduced pulse rate and blood pressure, dimmed pain response, and no emotional reaction.

The theory behind the technique is that the human

(Continued on Page 42)

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Korean Medical Reconstruction Is "Biggest Bargain"

Korea is "the world's greatest bargain for investments in humanitarian projects," a medical consultant to the United Nations secretariat said recently.

Dr. Howard A. Rusk, New York University College of Medicine, said that Korea has "an extremely difficult problem" but is doing a big job with very little money.

Through emergency help, the United Nations Korean Civil Assistance Command and its Korean counterparts have "achieved one of the world's truly remarkable results in the control of epidemic diseases . . . in an unbelievably short time."

But Dr. Rusk said the rest of the situation in Korea could be understood by picturing any American city of 25,000 with one fourth of the homes destroyed and another fourth unroofed or damaged, sewers destroyed, 1,250 persons with tuberculosis, almost every one chronically undernourished, scores blind or with leprosy—and only one poorly trained doctor.

The primary need is for trained personnel. Only 3,500 of the 6,800 medical practitioners have medical school training, and nearly half of the country's 5,000 doctors of medicine are in the army, leaving 2,500 to care for more than 20 million persons.

With about $600,000 of voluntary contributions, the American-Korean Foundation has started the first school of public health in Korea, reestablished nursing schools and set up short courses in tuberculosis control, midwifery, and nursing. A rehabilitation center for the physically handicapped and national programs for tuberculosis and leprosy control have been started.

This can be done only because of the tremendous buying power of a dollar in Korea, he said. A student can attend medical school for four years for $1,200. For $20 apiece, 2,000 American physicians bought goods for two suits and a raincoat each for the same number of Korean doctors.

Other voluntary contributions have been made: 70,000 textbooks have been contributed by the American book publishers in answer to an appeal in the *Journal of the American Medical Association*, and the drug industry has sent more than $2,250,000 in drugs and medicines through the American-Korean Foundation. One carload worth $300,000 was sent by one company. A surgical appliance company contributed an entire carload of brace parts valued at $60,000.

Dr. Rusk stated in a recent issue of *Today's Health* magazine, published by the American Medical Association, that it is "not surprising" that health professions have responded enthusiastically.

"We in America have always been proud of the spirit of voluntary service shown by members of the health professions," he said. "We have untold confidence in our men and women in white, for they have long symbolized mercy and compassion.

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Hypothermia May Help in Many Conditions

(Continued from Page 34)

body has developed a state of freedom from its physical surroundings, with complex machinery for keeping the body state normal in spite of widely different outside conditions. This normal state is kept up by reactions in the nerve and gland system, but reactions occur at a high rate of tissue change and chemical action, and require much energy. The body normally is able to supply the energy, but in extreme states too much is used and life can be lost from exhaustion.

To prevent exhaustion in difficult conditions such as surgical operations, the body is numbed and these processes are slowed down. Most important, shivering is prevented, so that when the body is cooled, less energy is used and exhaustion is prevented. Actually, cold is a vigorous stimulant, and reducing body temperature is useful for saving energy only if shivering is stopped, Dr. Swan said. This is what is done in hypothermia.

At present, however, Dr. Swan said the technique has many risks which call for a "state of skepticism." The technique "may hold great promise" but much basic research must be done under controlled laboratory conditions.

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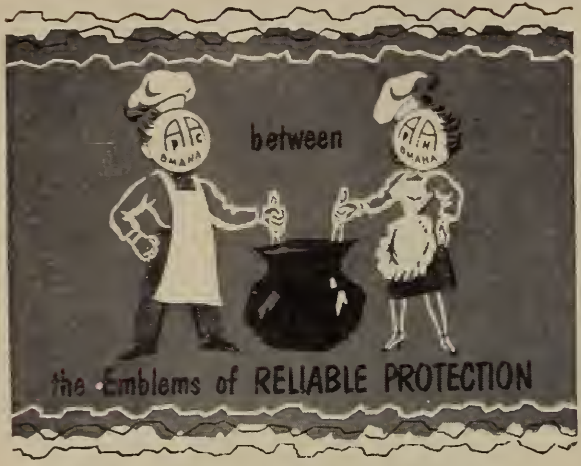
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Army Researchers Study "Yokohama Asthma"

An Army medical research team has isolated and studied a peculiar new respiratory disease which American GIs named "Yokohama asthma."

It was first reported in Yokohama in 1946 and so many cases appeared that in 1950 an Allergy Investigation Section was set up to study the unusual illness. Army officers eventually discovered it was also common in other similar areas of Japan.

A report on studies of the disease was made by researchers in a recent issue of *Archives of Industrial Hygiene and Occupational Medicine*, published by the American Medical Association.

"Yokohama asthma" differs from the asthma or hay fever found in the United States and the only cure has been to remove the patients from the Yokohama area. Almost half of 200 patients checked during a nine-month period in 1951 had to be sent home. They experienced dramatic relief "shortly after leaving the harbor area of Yokohama."

The illness generally starts with a lingering chest cold during autumn or early winter of the first year of living in Yokohama. Breathing trouble is disturbing but not alarming, until the second year when breathing becomes very difficult between 1 and 3 a.m. By the third year the patient usually is in a condition of status asthmaticus: crisis or shock marked by breathing difficulty to the point of exhaustion and collapse.

There are exceptions, with some patients suffering status asthmaticus after a few months of living in Yokohama, or showing no symptoms until several years after arrival. The disease strikes persons who have never before had asthma or hay fever, and age seems to make no difference, since many children of army personnel in Japan also suffered the illness.

U. S. Army hospital physicians at Yokohama found the disease is also an important medical problem among Japanese and occurred among British, French, and other foreign personnel living in Japan before World War II.

A long study showed that probable cause of the illness is a combination of weed, tree, and grass pollen and industrial contaminants. The geography of the area and heavy smog seemed to be important factors. The researchers said "by smelling the air late in the afternoon in the vicinity of the United States Army Hospital in Yokohama, one could predict with considerable accuracy the number of patients who would seek medical attention that evening."

Other areas where the disease occurred had several features in common with Yokohama: "proximity to a harbor usually surrounded by low hills, sundry manufacturing facilities and the occurrence of 'heavy smog' during the winter months."

The report was made by Lieut. Col. Tyron E.

(Continued on Page 52)

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1. Busis, S. N., and Friedman, L. L.: Antibiotics & Chemotherapy 3:299, 1953. 2. Lozor, A. M., and Goldin, M.: Eye, Ear, Nose & Throat Monthly 32:512, 1953. 3. Cohen, B. M., and Mendelsohn, R.: Laryngoscope 63:1118, 1953. 4. Wittich, F. W.: Ann. Allergy 12:185, 1954. 5. Vickers, M. A.: Laryngoscope 64:632, 1954.

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Confirmation of his theory came from a department store clerk in New York City, he said. She told him that on snowy or bad-weather days she makes about 20 sales—and out of 100 persons who buy polo belts, only one is a polo player.

Army Researchers Study "Yokohama Asthma"

(Continued from Page 46)

Huber, Surgeon General's office; Maj. Sheldon W. Joseph, Brooke Army Hospital, Fort Sam Houston, Texas; Maj. Edward Knoblock, Walter Reed Army Medical Center, Washington, D. C.; Lieut. Paul L. Redfearn, United States Army Forces Far East, and James A. Karakawa, Washington, D. C.

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Recent Advances in Rheumatic Diseases

EDWARD W. BOLAND, *M.D.*, Los Angeles

THE MEDICAL PROFESSION has long known that rheumatic diseases pose social and economic problems of major magnitude. Reports from every country where data concerning both incidence and economic loss have been compiled indicate that they are among the commonest causes of protracted illness. From surveys conducted by the Public Health Service, it seems clear that in the United States the rheumatic diseases rank first in incidence and second as causes of disability among the chronic diseases. In this country at least 200,000 persons are totally and permanently disabled, 800,000 more are partially disabled, and a total of about 7,000,000 suffer in some degree from arthritis, rheumatism and related disorders.[75] The burden in terms of medical expenditures, lost wages, and direct financial subsidies is figured to be somewhere around 700 million dollars annually. The Empire Rheumatism Council has estimated that in England and Wales there are about 1,000,000 adult sufferers and that the yearly financial loss is more than 2,000,000 pounds.[21] In Denmark it has been calculated that from 13.5 to 18 per cent of the population has rheumatic disease of one form or another and that 20,000 working years and $25,000,000 are lost to the nation annually as a result.[50] The burden of these diseases in terms of human suffering is, of course, beyond calculation.

Despite their prevalence, however, this group of diseases did not awaken popular interest or incite medical research commensurate with their importance until about five years ago. Interest in the field received great stimulus in 1949 from the discovery of the beneficial influence of cortisone and corticotropin. Lay publicity of this and of subsequent advances, together with the creation of the national Arthritis and Rheumatism Foundation, have done much to arouse public awareness of the problem. Recently unprecedented amounts of clinical and laboratory investigations have been accomplished and the research effort is continuing at an even accelerated pace. An attempt will be made herein to review briefly some of the advances that have been reported during the past year or two as they pertain to the four most common rheumatic diseases.

RHEUMATOID ARTHRITIS

Many theories have been proposed throughout the years, but the pathogenesis of rheumatoid arthritis remains an enigma. The concept that a fundamental fault resides in the host and that connective tissue elements, particularly interfibrillar substances, react abnormally to injury is currently popular. Stimuli of various types seem capable of inciting the inflammatory reactions of the disease. Infections, emotional stress, trauma, exposure, fatigue, nutritional deficiencies, etc., are frequently related temporally to the onset or to exacerbations, but these are looked upon as activating or aggravating influences, not as actual causes. Recent emphasis has been placed on the relation of psychogenic factors

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Submitted October 16, 1954.

to precipitation and fluctuations of the arthritis. Despite outwardly normal social and often superior work adjustment, Ludwig[61] found that many victims demonstrate emotional dependence and have pronounced feelings of inadequacy prior to the onset, these phenomena often dating from childhood—and that the onset of arthritis is commonly related to emotional events involving loss of security. Data collected by Stecher and colleagues[88] suggest that heredity may be of more importance than recognized heretofore. They found the disease to be present in 3.1 per cent of relatives of rheumatoid arthritic patients and in only 0.58 per cent of relatives in a control group.

The systemic nature of rheumatoid arthritis is well established. In some severe cases the extra-articular features may be so prominent that difficulty is experienced in distinguishing the process from other connective tissue diseases. Several investigators[5, 76, 97] have found pathologic evidence of diffuse arteritis occurring in patients with rheumatoid arthritis; reportedly, the arterial lesions differ qualitatively from those described for classical periarteritis nodosa in that regional distribution and necrotizing characteristics are lacking.[76] Among others, Ogryzlo[67] observed lupus erythematosus (L.E.) cell reactions in seemingly typical cases of rheumatoid arthritis. The cellular abnormality has been noted also in patients receiving cortisone therapy, the phenomenon sometimes disappearing after withdrawal of the drug.[81] Relation of the phenomenon to steroid administration is far from decided, however, and search for the presence of L.E. cell reactions in a large series of untreated rheumatoid patients might give information as to the specificity of the test and help clarify the issue.

The concept of rheumatoid heart disease has continued to receive support. Evidences of valvulitis and other stigmata are not frequently encountered clinically, but endocardial and myocardial scars indistinguishable from old rheumatic fever lesions, although less extensive, are not uncommon findings at autopsy.[75] Several cases have been reported in which there were active endocardial and myocardial lesions with granulomatous characteristics similar to those found in subcutaneous nodules—and Aschoff bodies were not present.[5]

Reliable statistics regarding the natural history of untreated cases are wanting, but Short and coworkers[79] found that approximately 30 per cent of patients admitted to the Massachusetts General Hospital had had one or more remissions, whereas the disease was essentially progressive in the remaining 70 per cent. Patients whose disease was mild or began with acute or subacute onset were more likely to have lasting remissions—but even after long periods of quiescence relapse was likely to occur. Cited among less favorable prognostic features were insidious onset with gradual progression, persistently active articular manifestations for more than a year, and the presence of subcutaneous nodules.

Data presented by Cobb, Anderson and Bauer[19] discredited the legend that "the way to a long life is to acquire rheumatism." Rheumatoid arthritis is seldom listed as a cause of death, but the mortality rate for persons with the disease was found higher than for the general population; the rate was 24.4 per 1,000 as compared to 18.9 for persons of comparable age and sex. The higher mortality rate was particularly evident in younger age groups and males fared more poorly than females. Valvular heart disease, infections of all sorts, renal disease and pulmonary embolism were notable for their frequency as causes of death among rheumatoid patients; accidental deaths, hypertensive heart disease and myocardial infarction were notably infrequent.

Although not yet practical for routine use, the hemagglutination test may become an important differential diagnostic aid. The procedure is accomplished by titrating the patient's serum with sheep red cells and also with cells to which a "sensitizing" dose of rabbit anti-sheep red cell serum is added. Positive reactions have been noted in about 75 per cent of rheumatoid arthritis patients and false positive reactions are rare.[1, 49] Apparently the agglutinins persist for long periods, even after spontaneous or therapeutic remissions.[18]

TREATMENT

It is recognized that the therapeutic approach to rheumatoid arthritis must be guided by several considerations. As the process is systemic and not confined to joints, local therapy is not enough and measures must be directed against the disease as a whole. While there is no cure, the active manifestations are reversible and with proper management they are amenable to varying degrees of control. No one remedy is effective in all cases and available measures must be selected carefully on the basis of the activity, extent and response of the disease. Often they must be used in combination. The course and responsiveness of rheumatoid arthritis tend to change from time to time and the therapeutic program must be altered accordingly—a regimen appropriate at one phase may not be suitable later.

During the past five years the imagination of scientists has been so stimulated that enormous energy has been expended in quest for a single therapeutic agent—one that has all the advantages and none of the disadvantages of cortisone, hydrocortisone or corticotropin. Similarly, some physicians have tended to rely on a "one package" remedy and have forgotten to apply the fundamental principles which should govern treatment. Duthie[26] cautioned that, regardless of new adjuncts which may be prescribed simultaneously, such time-tested conservative measures as local and general rest, prevention and correction of deformities by splints, restoration of function by physiotherapy and graduated exercises, avoidance of emotional stress, and sensible well-balanced diet should not be neglected; worthwhile improvement may result from these alone in a substantial number of patients, especially those with mild or moderate disease. Often, however, these supportive measures alone are not sufficient and a physician is forced to resort to potent drugs, among which adrenal cortical steroids, gold and phenylbutazone are popular today.

Adrenal cortical steroids. Although many divergent ideas have been expressed regarding the utility of adrenal cortical steroids in rheumatoid arthritis, the debate, for practical purposes, appears to have terminated. Current opinion is that hydrocortisone and cortisone are highly useful agents in selected cases, especially those in which there is insufficient response to more conservative methods. The question is no longer "if" but "when" and "how best" they can be used.[39] The most discouraging aspects of steroid therapy consist of its frequent failure to terminate the pathologic process, the frequency and severity of relapse when treatment is discontinued, and the tendency toward relative refractoriness in some cases after prolonged administration.[17] Nevertheless, the hormones have impressive assets, the rate of therapeutic response from them is high, and many cases defy control by any other means.

Cortisone by mouth. Statistical data regarding the value of long-term cortisone therapy have varied considerably. Some investigators have estimated that not over 25 to 35 per cent of patients can be maintained in worthwhile remission for two years,[52, 74] while others have concluded that adequate improvement may be maintained in from one-half to two-thirds of patients.[2, 6, 17, 20, 30, 31] This divergency of results is probably explained by differences in composition of the various series in relation to severity and duration of disease, in therapeutic plans and objectives, in methods of dosage regulation, in opinion as to what constitutes satisfactory control and in judgment as to the acceptability and safety of certain hormonal side effects.

Pooled data on 446 cortisone-treated patients from several clinics were analyzed by a special committee of the American Rheumatism Association:[2, 32, 51, 65, 71] Although the statistics were based on results from varied plans of treatment and included experiences with early "trial and error" methods, the information derived was of considerable interest: Benefits were distinctly greater in less active cases; undesirable side reactions were noted in 47 per cent of patients at one time or another; most such reactions were of minor significance but they were sufficiently severe in 18 per cent to prompt discontinuance of therapy; the overall incidence of hormonal complications varied inversely with the size of the daily dose employed, being almost double in patients receiving more than 50 mg. daily as compared to those taking less than this amount; administration was stopped in approximately one-half of the patients—for reasons of complete or almost complete remission in 13 per cent, partial remission in 19 per cent, inadequate benefit in 30 per cent, "worsening" in 6 per cent, "toxicity" in 21 per cent, and for financial, domestic and other causes in 12 per cent.

Results of a more uniformly regulated long-term (six months to four years) study were reported by Bunim, Ziff and McEwen.[17] They found that approximately 50 per cent of patients maintained major improvement or experienced remission, and that 50 per cent had a less satisfactory response. The duration of arthritis prior to therapy was considered as the most significant factor in determining long-range results, satisfactory control being upheld in more than 75 per cent of those with a disease duration of one year or less. Their observations and those of others[30, 52] emphasized that improvement, as measured by subjective relief and increased functional capacity, was strikingly superior to that reported solely on the basis of objective changes in the joints. Frequently functional capacity was enhanced sufficiently to permit good social and economic rehabilitation without proportionate objective improvement and despite, at times, even obvious progression of the disease. As a result of cortisone therapy, functional disability was lessened as follows: the number of bedridden patients was reduced from 17 to 2, of incapacitated nonself-sufficient patients from 31 to 6, and of unemployables from 45 to 11; those who could accomplish full-time jobs increased from 3 to 32. Of 20 incapacitated patients treated uninterruptedly for from one to two years by Copeman and co-workers,[20] 17 were able, with the help of cortisone, to return to their occupations.

An entirely different approach was taken by a group of British investigators.[11, 12, 40] Two small, but carefully controlled, series of patients with early disease (duration not less than three months or longer than nine months) were treated with cortisone and aspirin respectively. At the end of one year the disease was adjudged to be inactive or only slightly active in about three-fourths of the patients of each group. Conclusions drawn: there was little to choose between cortisone and aspirin in relieving symptoms or in influencing the natural course of early rheumatoid arthritis. These results are not surprising to rheumatologists familiar with the tendency for early mild cases to improve or to undergo spontaneous remission, a fact that has prompted them to recommend first a fair trial with conservative measures.

The failure of maintenance cortisone therapy to cause disappearance of the basic histologic lesions[96, 98, 104] or often to halt pathologic progression in patients with well-established disease, even though functional improvement may be maintained, was emphasized. Using the development of new sites of joint involvement, new subcutaneous nodules and worsening of roentgenographic changes as criteria, Engleman and co-workers[30] noted disease progression in 23 of 56 patients. Bunim and co-workers observed extension of joint involvement in 20 per cent of cases, osseous destruction in previously intact subchondral bone in 30 per cent of cases, and advancement of already existing roentgenographic changes in 40 per cent of cases. Although the degree of rheumatoid inflammation in synovial membranes, subcutaneous nodules, lymph nodes and vascular endothelium may be diminished greatly by the administration of cortisone or hydrocortisone, the histologic changes do not disappear, even after months of therapy, and apparently little or no modification of the basic pathologic pattern of the lesions is induced.[96, 98, 104]

Pseudorheumatism of hypercortisonism. Slocumb[82] described a syndrome consisting of excessive fatigability with weakness, diffuse aching in muscles and joints and emotional instability which he considered as due to hypercortisonism from prolonged cortisone overdosage. Superficially the musculoskeletal symptoms may simulate those accompanying an exacerbation of rheumatoid arthritis but on qualitative analysis they differ, resembling more closely those of psychogenic rheumatism. Slocumb expressed belief that differentiation of "pseudorheumatism" of hypercortisonism from true rheumatoid flares is important, as the former calls for gradual reduction rather than an increase in dosage.

Adrenal cortical suppression. Normally in the case of increased stress, the body requires, and the adrenal cortices produce, increased amounts of adrenocortical steroid. As treatment with cortisone or hydrocortisone temporarily inhibits this normal mechanism during and for varying periods following their use, the administration of additional quantities of these hormones has been recommended in steroid-treated patients subjected to anesthesia, surgical operation, severe trauma, burns and other stressful situations. Several deaths attributable to inadequate protection under such circumstances have been recorded. According to Salassa, Keating and Sprague,[78] it is difficult to decide which patients previously treated with cortisone will have inadequate adrenal response under stress. Pathologic data indicate that adrenal weights usually returned to normal within 20 days after discontinuance of the drug, but atrophy in some cases has persisted longer. They speculated that patients in whom pronounced signs of hypercortisonism develop may be subject to a delayed return of adrenal function. They advised that prophylactic intramuscular injections of cortisone be given in the event of operation or other major stress to any patient who is receiving cortisone (or hydrocortisone) or who has received it in significant quantities within three to six months.

Hydrocortisone by mouth. There is convincing evidence that hydrocortisone, not cortisone, is the principal glycogenic steroid produced normally by the adrenal gland and that it participates predominantly in physiologic reactions incident to stress. Its potency is greater than that of cortisone in equal amount and it appears to have therapeutic advantages. From comparisons of their relative antirheumatic activities in patients with rheumatoid arthritis, the potency of hydrocortisone is judged to be about one and one-half times that of cortisone—in other words, 50 mg. a day of hydrocortisone provides about the same relief as 75 mg. of cortisone.[6] Smaller doses of hydrocortisone than of cortisone are needed for initial disease suppression and for the maintenance of improvement, and results from uninterrupted administration suggest that certain hormonal complications (especially edema, psychic stimulation and abnormally increased appetite) may be fewer and less pronounced. For these reasons some investigators, finding that patients may be managed more easily, prefer hydrocortisone for routine use.[7]

Hoping that information regarding physiologic disposition might afford a better understanding of the relative merits of hydrocortisone and cortisone, Peterson and collaborators[68] determined the rates of disappearance of the two agents from the plasma of normal subjects and of patients with disease. In normal and in rheumatoid arthritic subjects, intravenously injected cortisone disappeared from the plasma twice as fast as hydrocortisone—the difference being ascribed to a more rapid metabolic transformation of cortisone rather than to an increased rate of excretion. Of particular interest was the rate of disappearance in patients with liver disease: cortisone disappeared at its usual rate but hydrocortisone remained in the circulation up to seven times longer. Peterson and co-workers speculated that the long-known ameliorating effects of liver disease with jaundice on rheumatoid arthritis might be related to decreased metabolic transformation or inactivation of the hydrocortisone which is normally elaborated by the adrenal cortex.

Fluorohydrocortisone. Interest was focused recently on a synthetic halogenated derivative of hydrocortisone—9-alpha fluorohydrocortisone acetate—which possesses powerful anti-inflammatory and salt-retaining activity. Preliminary trials in patients with rheumatoid arthritis have shown that its milligram antirheumatic potency is a number of times greater (roughly ten) than that of hydrocortisone (free alcohol) and that good rheumatic control may be supported with as little as 3 to 7 mg. of the compound a day.[8] Even with these small total daily amounts, however, signs of fluid retention have developed in most of the patients, and they have been pronounced in some. Definite elevations in blood pressure have been noted in about one-half of the patients. The observations indicate that the substitution of a fluorine atom at the ninth carbon position increases the salt retaining property of hydrocortisone to an extent proportionately greater than it enhances its antiphlogistic action. The excessive electrolyte activity of the fluoro compound would seem to preclude its application as systemic therapy for rheumatoid arthritis. The experiences with 9-alpha fluorohydrocortisone acetate are of interest, however, because they demonstrate that the anti-inflammatory potency of hydrocortisone may be enhanced, and other of its properties altered, by a relatively minor modification in its formula. This raises hope that, through other changes in structure or chemical substitutions, a more successful therapeutic agent for rheumatoid arthritis may be produced in the future.

That this hope might be realized sooner than anticipated was suggested recently when Bunim, Pechet and Bollett[x1] reported their experiences with two new synthetic crystalline steroids, metacortandralone (an analog of hydrocortisone) and metacortandracin (an analog of cortisone). Like hydrocortisone and cortisone, the new steroids exert a suppressive, not a curative, influence on the disease, and relapse follows their withdrawal. Preliminary clinical observations, however, indicate that they possess a higher therapeutic index than their parent substances—that is, fewer side effects in relation to a therapeutic dose.

The findings of Bunim and co-workers with metacortandralone and metacortandracin permit only tentative deductions as they were based on short-term studies in but a few patients. Their experience may be summarized as follows: (1) Both substances were found to be highly efficient anti-inflammatory agents. With oral administration subjective improvement was noted within a few hours, and with adequate doses objective response reached a peak within 10 to 14 days. (2) The antirheumatic activity of either compound was estimated to be about three to four times greater than cortisone and two to three times greater than hydrocortisone. (3) Apparently the higher potency was not accompanied by increased hormonal side effects—in fact, the reverse may be true. Total daily doses in the neighborhood of 5 to 25 mg. were sufficient to provide satisfactory rheumatic control and, with short-term administration at least, undesirable effects were negligible. In some of their patients minor endocrine complications, such as faint facial mooning, mild hypertrichosis, and slight acneiform eruption, were noted. Whether these and other unwanted reactions will appear more frequently or more prominently with prolonged therapy remains to be determined. (4) Metabolic balance studies in two subjects failed to demonstrate that metacortandralone influenced either electrolyte or carbohydrate metabolism with dosages of 30 mg. a day or less—but in one subject dosages greater than 30 mg. a day caused a negative nitrogen balance.

Boland and Headley[x2] observed, for short periods, the clinical effects of metacortandracin in 38 patients with rheumatoid arthritis. In general, the early observations confirmed those reported by Bunim and colleagues. Substantially smaller suppressive doses of the new steroid were needed for initial inhibition of the disease. Dosage comparison studies indicated that the potency of metacortandracin is approximately 4.3 times that of hydrocortisone (free alcohol) in equal doses. A number of patients with disease inadequately controlled by hydrocortisone had satisfactory improvement following transfer to the new steroid in smaller milligram doses; and in some instances certain readily reversible side effects, present before transfer, lessened or disappeared. Obviously, however, judgment regarding the true therapeutic efficacy of metacortandracin must await evaluations based on long-term administration.

Trials have been made also with aldosterone (electrocortin), the new mineralocorticoid isolated from the adrenal cortex. Dosages as great as 1,000 micrograms a day given to patients with rheumatoid arthritis failed to promote an antirheumatic response.[x3]

Intra-articular use of hydrocortisone. Instillation of hydrocortisone acetate directly into involved joints has become an important adjuvant in the management of selected cases of rheumatoid arthritis, especially in alleviating inflammatory reactions in one or a few peripheral articulations which may be resistant to otherwise successful systemic therapy. Local relief results in a high proportion of cases (70 to 89 per cent),[16, 43, 45, 74] but it is usually transient (one to three weeks, occasionally longer). Several less soluble esters have been tried in hope that they would have longer action. Recently Hollander and co-workers[46] reported that hydrocortisone tertiary butyl-acetate sometimes produces a more durable response; in 60 per cent of patients to whom they gave the agent, benefits lasted two to ten times longer than benefits from hydrocortisone acetate.

Information regarding the absorption and local metabolism of hydrocortisone acetate and cortisone acetate has been provided by steroid assays of synovial fluid and membrane made at intervals following intra-articular injections. Both hormones disappear quickly from the synovial fluid, within two to three hours.[33, 100] A large proportion of hydrocortisone acetate is absorbed by the cells of the synovial membrane where it remains for some days. Cortisone acetate is taken up less readily and disappears from the synovial lining much sooner. This difference may partly explain why hydrocortisone is more effective locally than cortisone.[44]

Chromatographic analyses of synovial fluid revealed that hydrocortisone and cortisone, following intra-articular injection, are transformed locally into a number of metabolites.[99] The two steroids present different patterns and apparently much of the injected cortisone is changed to hydrocortisone. These findings prompt a conjecture: Possibly the unique anti-inflammatory effect of hydrocortisone may reside in one of its metabolic products.

Phenylbutazone. Although this drug is now widely employed for the symptomatic relief of various musculoskeletal disorders, its place as a therapeutic agent still awaits final evaluation. Phenylbutazone has strong analgesic and antipyritic properties and exerts some anti-inflammatory action, but a high degree of toxicity has prevented its general acceptance for chronic diseases requiring prolonged administration, such as rheumatoid arthritis.[86] Adverse reactions, some serious and a few fatal, have been observed in from 21 to 40 per cent of cases.* Toxicity is lower when smaller daily amounts are prescribed and there is a growing tendency to limit the total daily dose to 200 to 400 mg.[90]

The results of long-term administration in patients with peripheral rheumatoid arthritis indicate that the drug is less beneficial than originally reported and that its effectiveness frequently wanes with continued use. Symptomatic relief occurs regularly and is better maintained in rheumatoid spondylitis than in the peripheral form of the disease.[56, 84] Holbrook[42] compared results after six months' continuous administration and concluded that the long-range treatment of spondylitis with phenylbutazone was more successful than with cortisone or ACTH. Toone and Irby noted major improvement in 54 per cent of the spondylitic patients but considered that the drug should be employed as an adjunct to, not as a replacement for, x-ray therapy.[62, 95]

Phenylbutazone is rapidly absorbed from the gastrointestinal tract, its peak level in plasma being reached ordinarily within two hours following ingestion; on constant dosage the concentration increases progessively until a plateau is reached on the third or fourth day.[15] When it is given intramuscularly the maximum plasma concentration is not attained for six to ten hours; hence more rapid response should be expected from oral administration. Pharmacologic studies have demonstrated that phenylbutazone probably does not mediate its effects through the adrenal cortex; it does not cause potassium diuresis, eosinopenia, increased ketosteroid excretion or ascorbic acid depletion in the adrenal gland.[15]

Rehabilitation. Lowman and colleagues[59, 60] undertook to rehabilitate severely crippled rheumatoid arthritic patients with active disease. Cortisone or hydrocortisone was administered in maintenance amounts and an intense and comprehensive rehabilitation program was instituted simultaneously. The latter included corrections of joint deformities, muscle building exercises and other physiotherapeutic measures, training in the use of braces and specially devised equipment, vocational instruction and classes in psychosocial readjustment. Of 33 patients trained over a two-year period, 11 were rehabilitated to a completely independent socioeconomic status, two other patients reached a partially independent status, and most of the remaining patients attained noteworthy increases in self-sufficiency.

RHEUMATIC FEVER

Since epidemiologic studies established the fundamental part played by streptococcal infections, it has become evident that the social incidence of rheumatic fever is dependent on the occurrence rate of these infections.[70] The greater risk of streptococcal infections seems to explain the increased frequency of the disease in large families compared with small, and in children attaining school age. Holmes and Rubbo[47] also observed a social pattern in tonsillectomy: The procedure was done more often among children from higher income groups and the incidence of throat infections was distinctly lower among children who had had the operation. Their studies imply that tonsillectomy protects against rheumatic fever by reducing streptococcal carrier and infection rates.

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*References 4, 28, 29, 56, 62, 69, 89, 90.

Studies concerning the natural history of hemolytic streptococcal disease in childhood were reported recently by Rantz.[72] Infections and reinfections with the organism in children under the age of four years were found to be common but associated with relatively mild symptoms and feeble antibody production. In children older than four years the clinical pattern changed so that progressively more of the infections were manifest by acute febrile onset, sore throat, exudative tonsillitis, etc.—together with an increasingly vigorous antibody response. Rheumatic fever was observed in children over the age of four years and not in younger ones—a fact that seems to support the hypothesis that the clinical reaction to hemolytic streptococci is dependent on the type of altered tissue response which is stimulated—this being conditioned by the degree of immunity or hypersensitivity acquired from repeated infections.

The concept that acute rheumatic fever may be prevented by eradicating streptococcal infections, especially of the respiratory tract, together with the advent of efficient antibiotic agents, has allowed major steps to be taken in prophylaxis. Prompt treatment of these infections is now held as the important means of preventing initial attacks. The efficacy of the procedure was demonstrated clearly by Denny and co-workers:[23] Of 798 patients with streptococcal infections treated with penicillin soon after the onset, only two developed acute rheumatic fever; but among 804 patients similarly affected but not treated, the disease occurred in 17. These and other studies have led to the recommendation by the American Council on Rheumatic Fever that persons with streptococcal infections be treated early with penicillin, preferably with a relatively long-acting preparation such as procaine penicillin G in oil.

For the prevention of recurrent episodes, the daily ingestion of small prophylactic amounts of penicillin or one of the sulfonamide drugs has proved dependable. Rationale for this scheme is based on knowledge that approximately 40 per cent of streptococcal respiratory infections are either asymptomatic or so mild that medical care is not sought, and that established infections are frequently neglected.[22] Either of two regimens has been recommended:[38] (a) daily oral administration of a sulfonamide in doses of 0.5 to 1 gram a day, or (b) daily oral administration of 400,000 to 500,000 units of buffered penicillin G, divided into two doses and given on an empty stomach. Kohn, Milzer and MacLean[35] presented evidence which suggested that intermittent administration of penicillin orally may adequately protect the rheumatic subject but more information must accumulate before continuous daily oral administration is discarded.[48] Giving penicillin parenterally has also proved practical in prophylaxis. Using a long-acting repository penicillin, Dipenicillin G ("Bicillin"), Stollerman and Rusoff[92] demonstrated that effective blood levels against Group A streptococci can be maintained for as long as four weeks following a single injection of 1,200,000 units. An injection once each month for two years completely protected from recurrences a group of over 400 patients who had recently recovered from acute rheumatic fever. The method circumvents a major objection to oral therapy—that of relying on the patient for prophylactic medication.[24] The importance of this consideration was emphasized by Dodge and Lichty,[25] who found that in Colorado only 14.5 per cent of children with definite rheumatic heart disease were actually receiving drug prophylaxis.

When streptococcal sore throat develops in a rheumatic subject, treatment with penicillin should be started promptly and continued for a minimum of ten days.[38] Brock and Siegel[13] presented data demonstrating that antibody formation is reduced even though treatment is delayed up to five days. Thus even if therapy of streptococcal sore throat is not begun until relatively late, treatment with penicillin is still indicated.

Treatment of the acute phase. That cortisone, hydrocortisone and corticotropin exert powerful and dramatic suppression of the inflammatory manifestations of acute rheumatic fever has been documented repeatedly. But true assessment of the therapeutic value of these hormones cannot be based on immediate effects alone—it must be measured also by a capacity to shorten an attack, to actually lessen active carditis, and to prevent or reduce residual damage to the heart. As acute rheumatic carditis is a self-limited process and the development of sequelae seems to depend on the duration and severity of the inflammatory bout, prompt inhibition of the acute phase theoretically should lessen myocardial and valvular complications. However, there is still sharp division of opinion as to whether the hormones accomplish this feat—and some authorities even question that hormonal treatment possesses advantages over conventional salicylate therapy.[77]

A preliminary report by the Council on Rheumatic Fever of the American Heart Association, in cooperation with the British Medical Research Council, based on an analysis of approximately 300 cases, stated that a firm conclusion could not be made as to the superiority, any over the others, of salicylates, cortisone and corticotropin in acute rheumatic fever.[66] Although the studies were not sufficiently extensive or over a long enough period to warrant categorical statement, inference was drawn that each of the drugs promoted about the same degree of immediate improvement and that their influences on the development of residual heart disease were not significantly different. A study by Rowe, McKelvey and Keith brought similar conclusions;[77] they contended that salicylates were just as efficacious and were preferable for routine treatment.

Several outstanding authorities have voiced staunch opposition to such conclusions. Among others, Wilson and co-workers[101, 102] believe that the hormones favorably alter the natural course of the disease and when given early, in sufficient amounts and for long enough periods, they will arrest active carditis and prevent or lessen the development of chronic cardiac sequelae. They presented a strong case: Of over 1,500 patients with authentic rheumatic fever and rheumatic carditis treated with salicylates, not one following recovery from the acute phase had a normal heart according to the strict criteria of the American Heart Association. In the experience of these investigators it has been only since the advent of the hormones that they have observed cases in which there was full recovery, without evidence of residual heart disease.

Interesting studies on the concentrations of circulating adrenal cortical hormones and of corticotropin in patients with rheumatic fever were reported by Kelley.[53] During the first week of the disease, the amount of 17-hydroxy corticosteroids in the blood is elevated as compared to normal controls, but after two weeks, when the disease becomes well established, it is reduced considerably below normal. Concentrations of endogenous circulating corticotropin are elevated throughout the course. These findings were interpreted to mean that patients with rheumatic fever have relative adrenal insufficiency—a situation comparable to that which exists in patients with Addison's disease and following adrenalectomy in that steroid concentrations are low and corticotropin concentrations are high. These observations led Kelley to suggest that adrenocorticosteroid administration might be considered as replacement therapy. The residual cardiac status of patients treated with hormones was compared with that of patients treated by conventional methods, including salicylate administration. During the acute phase 100 per cent of the hormone-treated group and 96 per cent of the nonhormone group had murmurs. When discharged from the hospital, the incidence of murmurs for the two groups was similar—71 per cent for the nonhormone and 66 per cent for the hormone-treated series. Thereafter the incidence in the nonhormone-treated group changed but little whereas it decreased progressively in the hormone-treated group until at the end of a year only 9 per cent had residual murmurs.

"C-reactive protein," so-called because of its capacity to form a precipitate with the C-polysaccharide of pneumococci, appears in human serum as a nonspecific inflammatory response. Stollerman and colleagues[91] expressed belief that the test provides a sensitive and reliable gauge for rheumatic activity if other inflammatory processes can be excluded. The disappearance of this protein from the blood marks the termination of a rheumatic attack but does not preclude recurrences.

OSTEOARTHRITIS

There have been few significant recent advances in knowledge of osteoarthritis or in the treatment of it. Histological and chemical investigations have provided some information regarding the fundamental changes which occur in the cartilage. Electron microscopic studies have demonstrated that with aging there is a gradual and irregular loss of the amorphous mucoid material responsible for the binding of water in cartilage. Matthews observed that cartilage degeneration is associated with disappearance of a mucopolysaccharide, chondroitin sulfate;[64] and, since much of the elastic property of the tissue seems to depend on the presence of this substance, loss of it may account for the decreased resilience and increased susceptibility to wear and tear which accompanies the aging process.[27]

Sir Russell Brain in his Heberden's Oration of last year gave a brilliant exposition of the possible mechanisms involved in the development of radiculitis secondary to osteoarthritis of the cervical spine.[9, 10] Although recognizing the possible effect of posterior spurs as they may encroach on the posterior intervertebral foramina, he pointed out that the nerve roots normally occupy only one fifth to one-fourth of the diameter of their foramina and hence considerable narrowing of the apertures can occur without causing compression. He emphasized that radicular nerves within the foramina may be displaced as a result of cervical disc degeneration, quite independently from any pressure from disc protrusion. With narrowing of the cartilaginous discs, the spinal cord and dural sac retain their original length while the spine itself is shortened—this may result in a sharp angulation of the nerve roots and, with the associated ischemia, may lead to irritation or degeneration of nerve fibers. At times the sheath of the nerve undergoes fibrosis in the region of involvement, causing adhesions between the nerve root and its covering. This condition has been termed "root sleeve fibrosis" and, in Sir Russell's opinion, it is frequently responsible for the brachial neuritis or neuralgia which is observed in association with cervical osteoarthritis.

Li and co-workers reported very interesting studies on the production of osteoarthropy in adult female rats with the administration of large doses of anterior pituitary growth hormone.[3, 73] After receiving the hormone for approximately a year, the animals had abnormalities in the joints of the knees, ankles and spine, principally irregular articular surfaces, thickened joint linings and multiple exostoses. In certain respects the abnormalities bore resemblance to osteoarthritic changes as seen in man.

GOUT AND GOUTY ARTHRITIS

Modern methods of genetic analysis have helped to explain the seemingly inconsistent inheritance pattern of gout. The frequency of asymptomatic hyperuricemia among members of families with patients with overt gout has been shown to be high (25 per cent or more). Stecher and co-workers found that the inherited, dormant hyperuricemia has a penetrance of about 84 per cent in men and 12 per cent in women.[87] Moreover, a sex difference seems to exist with respect to purine metabolism, for serum urate levels in both healthy and gouty subjects are significantly lower in females than in males. According to Gutman,[35] this may be related to a higher urate clearance rate in females and possibly to a variation in urate biosynthesis. Not answered, however, is the question as to why some males with hereditary hyperuricemia develop clinical evidences of the disease while others do not.

Information has been obtained also regarding the nature of the anomalous purine metabolism in gout. The problem has been approached by employing isotope tracer techniques, determining the fate of tagged precursors of uric acid and of labeled uric acid itself.[35, 37, 58] A variety of metabolic precursors for uric acid have been identified, many of them being relatively simple and readily available substances. Such studies have indicated that the bulk of urate production, normally and in gout, results from the endogenous biosynthesis of simple nonpurine precursors—a fact which precludes the possibility of controlling urate overproduction by dietary regulation alone. Nevertheless, the dietary intake of preformed nucleic acids and purines is still considered to have an important accessory influence on the course of the disease since the heavy ingestion of these substances increases urate production greatly (by as much as 100 per cent in some instances), the extra burden leading to further rise of serum urate levels and to accelerated accumulation of urates in the tissues.

Whereas it is understood that the clinical and pathologic manifestations of chronic tophaceous gout are related to supersaturation of urates in interstitial fluids and the deposition of them in such structures as joints, bursae, cartilage and renal parenchyma, the pathogenesis of acute bouts of gouty arthritis remains obscure. Several clues have prompted speculation that a temporary adrenal cortical deficiency may be implicated in the development of acute seizures.[41] Common precipitating factors are trauma, surgical operation, infection, allergic reaction, psychic upsets and exposure to cold or heat—each of which produces stress with its associated sudden increase of adrenal cortical secretion, followed by a decrease to subnormal levels. Furthermore, acute attacks may be suppressed by the administration of corticotropin, and the urinary excretion of 17-ketosteroid is subnormal in gouty patients. From these observations inference has been drawn that a relative deficiency of adrenal cortical secretion or a diminished target responsiveness to the hormone may exist at the time of an acute bout.

By the use of one of three medicinal agents—colchicine, phenylbutazone and corticotropin — it is possible to control effectively, or terminate quickly, most acute seizures of gouty arthritis. Less than 5 per cent of acute attacks fail to respond to a single full therapeutic course of colchicine, but results are not always complete, especially if treatment is delayed.[35] Intravenous colchicine has proved to be a safe, rapid and efficient antidote in the acute phase, and according to Graham and Roberts[34] deserves wider application—especially when prompt response is required and when severe gastrointestinal intolerance prohibits oral administration. With the usual single intravenous dose of 3 mg., unpleasant side effects are rarely observed.

The efficiency of phenylbutazone in acute gouty arthritis approaches that of colchicine. Currently recommended oral dosage is 0.6 to 0.8 gm. daily for five to ten days, or for shorter periods if recovery occurs sooner. Kuzell and colleagues observed major improvement in 83 per cent of patients, and 41 per cent were free of symptoms within 48 hours.[56, 57] Similar statistical data on results have been published by others.[54, 90] Relief appears to ensue even more rapidly following intramuscular administration of the drug. A single injection of 0.5 to 1.0 gm. given at the beginning of an attack may suffice; in resistant cases or when treatment is delayed, reinjection on two or three successive days may be needed. Most authorities consider phenylbutazone as a second choice to colchicine and, because of its potential toxicity, emphasize caution in its use.[90] They concede, however, that for the brief treatment required in acute gouty arthritis the risk is small.

When given early and in adequate amounts, corticotropin will suppress most acute bouts. As sudden termination of the hormone is often followed by an articular relapse, it is necessary, after two or three days of full doses, to taper off the dosage gradually over a period of several days and to administer small amounts of colchicine by mouth simultaneously. Corticotropin probably should be reserved for special cases which are resistant to colchicine and phenylbutazone.[90]

An acutely inflamed gouty joint may respond dramatically when hydrocortisone acetate is injected intra-articularly. The procedure is sometimes useful in the management of stubborn attacks but should be employed as an adjunct to, not as a substitute for, standard therapy.[16, 45, 80]

The management of gout during the intervals between attacks is directed toward (1) preventing or reducing the frequencies of acute episodes, (2) controlling hyperuricemia so as to minimize the deposition of urates in the tissues, and (3) if possible, mobilizing deposits which are already formed. No set regimen is applicable to all patients with gout—rather, the restrictions imposed and the medicaments prescribed should be tailored to fit the severity and responsiveness of the individual process.

The lively biosynthesis of uric acid from simple precursors present in virtually every foodstuff necessarily limits the value of dietary regulation. Nevertheless, the intake of foods rich in preformed purines and the nitrogenous precursors of uric acid should be restricted.[35] Fat consumption should be limited also because excessive amounts cause renal retention of urates and tend to increase the incidence of acute seizures.[93, 94]

Colchicine given uninterruptedly in low dosage is the most effective agent available for lessening the recurrence rate of acute attacks.[75, 80, 93, 94] With daily prophylactic amounts ranging from 0.5 to 2.0 mg., Gutman observed striking reduction in both the frequency and severity of seizures in over two-thirds of patients.[35]

Because of its analgesic properties, apparent ability to lessen the frequency of acute bouts, and its uricosuric action, some investigators have advocated phenylbutazone as "maintenance" treatment for interval gout. Reports of long-term studies are few, but the opinion of most observers is that, in light of the potential hazards from the drug, continuous and indefinitely prolonged administration is not justified. Furthermore, urate clearance studies made by Yu, Sirota, and Gutman and others indicate that the uricosuric action of phenylbutazone is highly variable and distinctly inferior to that of probenecid.[36, 63, 85, 103]

Laboratory and clinical investigations have been sufficiently extensive to establish probenecid (Benemid®) as the most suitable uricosuric agent available in chronic tophaceous gout.[35, 41, 80, 83, 90, 93, 94] The drug causes a pronounced and selective suppression of tubular resorption of urates, which results in an increased rate of urate excretion by the kidneys. This is accompanied by a lowering of serum urate values which may be maintained by continuous administration of the drug. The toxicity of probenecid is low with the usually recommended dosage of 0.5 to 2.0 gm. a day, but amounts larger than 2 gm. a day may cause nausea and anorexia.[93]

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REFERENCES

1. Alexander, R., and deForest, G. K.: The sensitized sheep cell agglutination reaction in rheumatoid arthritis, Am. J. Med., 16:191-196, Feb. 1954.

2. American Rheumatism Association: Statement of the cooperative study of cortisone in rheumatoid arthritis, Proc. Ann. Meet., Am. Rheum. Assoc., 1953, Ann. Rheum. Dis., 12:335-337, Dec. 1953.

3. Ansling, C. W., Simpson, M. E., Moon, H. D., Li, C. H., Evans, H. M.: Growth hormone-induced osteoarthropathy, Proc. Ann. Meet., Am. Rheum. Assoc., 1954, Ann. Rheum. Dis. (in press).

4. Beutler, E., and Bergenstal, D. M.: Perforated duodenal ulcer with neutropenia and death in a patient receiving phenylbutazone therapy, Gastroenterology, 25:72-74, Sept. 1953.

5. Bevans, M., Nadell, J., Demartini, F., and Ragan, C.: The systemic lesions of malignant rheumatoid arthritis, Am. J. Med., 16:197-211, Feb. 1954.

6. Boland, E. W.: Systemic use of hydrocortisone, The Merck Report, pp. 1-5, April 1953.

7. Boland, E. W.: Oral hydrocortisone in the treatment of rheumatoid arthritis: Med. Clin. N. Am., 38:337-347, March 1954.

8. Boland, E. W., and Headley, N. E.: Preliminary clinical trials with 9-alpha fluorohydrocortisone acetate in rheumatoid arthritis, Ann. Rheum. Dis. (in press).

9. Brain, Sir R.: Spondylosis: the known and unknown (Heberden Oration, 1953), Ann. Rheum. Dis., 13:2-14, March 1954.

10. Brain, Sir R.: Cervical spondylosis, Ann. Int. Med., 41:439-446, Sept. 1954.

11. British Med. Research Council and Nuffield Foundation Joint Committee Report on clinical trials of cortisone, ACTH, and other therapeutic measures in chronic rheumatic diseases: a comparison of cortisone and aspirin in the treatment of early cases of rheumatoid arthritis, Brit. M. J., 1: 1223-1227, May 29, 1954.

12. British Medical Research Council, Nuffield Foundation, interval report by H. F. West: A comparison of cortisone and aspirin as a suppressive agent in early cases of rheumatoid arthritis, Proc. Ann. Meet., Am. Rheum. Assoc., 1954, Ann. Rheum. Dis. (in press).

13. Brock, L. L., and Siegal, A. C.: Studies on the prevention of rheumatic fever: the effect of time of initiation of treatment of streptococcal infections on the immune response of the host, J. Clin. Invest., 32:630, 1953.

14. Brodie, B. B., and Burns, J. J.: Physiological disposition of Butazolidin in man, Eighth Internat. Cong. Rheum. Dis., Geneva, Aug. 24-28, 1953.

15. Brodie, B. B., Lowman, E. W., Burns, J. J., Lee, P. R., Chenkin, T., Goldman, A., Weiner, M., and Steele, J. M.: Observations on the antirheumatic and physiologic effects of phenylbutazone (Butazolidin) and some comparisons with cortisone, Am. J. Med., 16:181-190, Feb. 1954.

16. Brown, E. M., Jr., Frain, J. B., Udell, L., and Hollander, J. L.: Locally administered hydrocortisone in rheumatic diseases, Am. J. Med., 15:656-665, Nov. 1953.

17. Bunim, J. J., Ziff, M., and McEwen, C.: Results of prolonged cortisone administration in rheumatoid arthritis:

a four year study, Proc. Ann. Meet., Am. Rheum. Assoc., 1954, Ann. Rheum. Dis. (in press).

18. Cecil, R. L.: Discussion of paper by Jacobson, A. S.[13]

19. Cobb, S., Anderson, F., and Bauer, W.: Length of life and cause of death in rheumatoid arthritis, N.E.J.M., 249: 553-556, Oct. 1, 1953.

20. Copeman, W. S. C., Savage, O., Dodds, C., Glyn, J. H., and Fearnley, M. E.: Management of rheumatoid arthritis with prolonged cortisone administration, Brit. M. J., 1:1109-1113, May 15, 1954.

21. Daley, A.: Chronic rheumatism, Rheumatism, 4:199, July 1948.

22. Denny, F. W.: Prophylaxis of streptococcal infections. Symposium on streptococcal infections, The New York Acad. of Med., New York, Feb. 25-26, 1953.

23. Denny, F. W., Wannamaker, L. W., Brink, W. R., Rammelkamp, C. H., Jr., and Custer, E. A.: Prevention of rheumatic fever: treatment of the preceding streptococcal infection, J.A.M.A., 143:151, May 13, 1950.

24. Diehl, A. M., Hamilton, T. R., Keeling, I. C., and May, J. S.: Long-acting repository penicillin in prophylaxis of recurrent rheumatic fever, J.A.M.A., 155:1466-1470, Aug. 21, 1954.

25. Dodge, H. J., and Lichty, J. A.: Rheumatic heart disease in Colorado school children, Proc. Ann. Meet., Am. Rheum. Assoc., 1954, Ann. Rheum. Dis. (in press).

26. Duthie, J. J. R.: The value of long-term conservative treatment in rheumatoid arthritis, Bull. Rheum. Dis., 4:54-55, May 1954.

27. Editorial: Articular cartilage and osteoarthritis, Brit. M. J., 1:506, Feb. 27, 1954.

28. Engleman, E. P., Krupp, M. A., Rinehart, J. F., Fine, M., Bruck, E. L., Barbour, A. B., Farquhar, J. W., and Jones, R. C.: Uncommon and serious reactions to phenylbutazone—a clinicopathologic study, Proc. Ann. Meet., Am. Rheum. Assoc., 1953., Ann. Rheum. Dis., 12:351-353, Dec. 1953.

29. Engleman, E. P., Krupp, M. A., Rinehart, J. F., and Jones, R. C.: Hepatitis following the ingestion of phenylbutazone, J.A.M.A., 156:98-101, Sept. 11, 1954.

30. Engleman, E. P., Krupp, M. A., Saunders, W. W., Wilson, L. E., and Fredell, E. W.: Rheumatoid arthritis: an evaluation of long-term treatment with cortisone, Calif. Med., 80:369-374, May 1954.

31. Fischer, F., Harvald, B., and Brochner-Mortensen, K.: Prolonged treatment of rheumatoid arthritis with cortisone, Danish Med. Bull., 1:18-21, 1954.

32. Freyberg, R. H.: Panel discussion: Am. Rheum. Assoc. cooperative study of cortisone therapy in rheumatoid arthritis, Proc. Ann. Meet., Am. Rheum. Assoc., 1953, Ann. Rheum. Dis., 12:329-335, Dec. 1953.

33. Gallagher, T. F., Nellman, L., Bradlow, H. L., Zuckner, J., and Freyberg, R. H.: Dynamics of radioactive cortisone distribution in rheumatoid arthritis, Proc. Ann. Meet., Am. Rheum. Assoc., 1953, Ann. Rheum. Dis., 12:347-348, Dec. 1953.

34. Graham, W., and Roberts, J. B.: Intravenous colchicine in the management of gouty arthritis, Proc. Ann. Meet., Am. Rheum. Assoc., 1954, Ann. Rheum. Dis. (in press).

35. Gutman, A. B.: Primary and secondary gout, Ann. Int. Med., 39:1062-1076, Nov. 1953.

36. Gutman, A. B., Sirota, J. H., and Yu, T. F.: Action of uricosuric agents on discrete renal functions, with special reference to effects on uric acid excretion in gout, Proc. Ann. Meet., Am. Rheum. Assoc., 1954, Ann. Rheum. Dis. (in press).

37. Haines, R. D.: Gout, Southwestern Med., 34:409-412, Nov. 1953.

38. Harmon, E. L., Bellows, M. T., Swift, H. F., Levy, F. J., and Young, D. E.: Statements of Am. Heart Assn. Council on Rheumatic Fever and Congenital Heart Disease: Protection of rheumatic fever patients, J.A.M.A., 151:141, 1953.

39. Hench, P. S., and Ward, L. E.: Rheumatoid arthritis and other rheumatic or articular diseases (chapter), Medical Uses of Cortisone, edited by F. D. W. Lukens, The Blakiston Co., Inc., New York, 1954, pp. 177-275.

40. Hill, A. B., and Kellgren, J. H.: Comparison of cortisone and aspirin as suppressive agents in early cases of rheumatoid arthritis, Proc. Ann. Meet., Am. Rheum. Assoc., 1953, Ann. Rheum. Dis., 12:327-329, Dec. 1953.

41. Hoffman, W. S.: Metabolism of uric acid and its relation to gout, J.A.M.A., 154:213-217, Jan. 16, 1954.

42. Holbrook, W. P.: Comparison of Butazolidin and steroid therapy in the long term treatment of rheumatoid arthritis, Eighth Internat. Cong. Rheum. Dis., Geneva, Aug. 24-28, 1953.

43. Hollander, J. L.: Intra-articular hydrocortisone in treatment of arthritis, Ann. Int. Med., 39:735-746, Oct. 1953.

44. Hollander, J. L.: Discussion of paper by Gallagher, T. F.[46]

45. Hollander, J. L., Brown, E. M., Jr., and Jessar, R. A.: Intra-articular hydrocortisone in the management of rheumatic diseases, Med. Clin. N. Am., 38:349-357, March 1954.

46. Hollander, J. L., Brown, E. M., Jessar, R. A., Smukler, N., Udell, L., and Bowie, M. A.: The local antirheumatic effectiveness of higher esters and analogues of hydrocortisone, Proc. Ann. Meet., Am. Rheum. Assoc., 1954, Ann. Rheum. Dis. (in press).

47. Holmes, M. C., and Rubbo, S. D.: Study of rheumatic fever and streptococcal infection in different social groups in Melbourne, J. Hygiene, 51:450-457, Dec. 1953.

48. Houser, H. B.: Treatment and prophylaxis of streptococcal infections for prevention of rheumatic fever, J. Michigan State Med. Soc., 52:1289-1292, Dec. 1953.

49. Jacobson, A. S., Kammerer, W. H., Kolodny, M. H., and Heller, G.: Hemagglutination test for rheumatoid arthritis: clinical analysis, Eight Internat. Cong. Rheum. Dis., Geneva, Aug. 24-28, 1953.

50. Kalbak, K.: Rheumatic diseases in Denmark, Ann. Rheum. Dis., 12:306-309, Dec. 1953.

51. Kammerer, W. H.: Panel discussion, Am. Rheum. Assoc. cooperative study of cortisone therapy in rheumatoid arthritis, Proc. Ann. Meet., Am. Rheum. Assoc., 1953, Ann. Rheum. Dis., 12:329-335, Dec. 1953.

52. Kammerer, W. H., and Cecil, R. L.: Cortisone in private practice, Eighth Internat. Cong. Rheum. Dis., Geneva, Aug. 24-28, 1953.

53. Kelley, V. C.: Functional status of the pituitary-adrenal system in rheumatic fever, Proc. Ann. Meet., Am. Rheum. Assoc., 1954, Ann. Rheum. Dis. (in press).

54. Kidd, E. G., Boyce, K. C., and Freyberg, R. H.: Clinical studies of phenylbutazone (Butazolidin) and Butapyrin (Irgapyrin) in rheumatoid arthritis, rheumatoid spondylitis, and gout, Ann. Rheum. Dis., 1:20, 1953.

55. Kohn, K. H., Milzer, A., and MacLean, H.: Prophylaxis of recurrences of rheumatic fever with penicillin given orally; final report of a five year study, J.A.M.A., 151:347, 1953.

56. Kuzell, W. C., Schaffarzick, R. W., Naugler, W. E., Gaudin, G., and Mankle, E. A.: Phenylbutazone: further clinical evaluation, Arch. Int. Med., 92:646-661, Nov. 1953.

57. Kuzell, W. C., Schaffarzick, R. W., Naugler, W. E., Gaudin, G., Mankle, E. A., and Brown, B.: Phenylbutazone (Butazolidin) in gout, Am. J. Med., 16:212-217, Feb. 1954.

58. Lockie, L. M., Bishop, C., and Talbott, J. H.: Intermediary metabolism of uric acid by isotope studies, Eighth Internat. Cong. Rheum. Dis., Geneva, Aug. 24-28, 1953.

59. Lowman, E. W., and Lee, P. R.: The chronic rheumatoid cripple: rehabilitation assets and deficits, Bull. Rheum. Dis., 4:50-51, March 1954.

60. Lowman, E. W., Miller, S., Lee, P. R., Stein, H., King, R., and Heald, L.: The chronic rheumatoid arthritic: psychosocial factors in rehabilitation, Ann. Rheum. Dis. (in press).

61. Ludwig, A. O.: Psychogenic factors in rheumatoid arthritis, Bull. Rheum. Dis., 2:15, April 1952.

62. MacKnight, J. C., Irby, R., and Toone, E. C., Jr.: Phenylbutazone in management of rheumatoid arthritis, rheumatoid spondylitis, and gouty arthritis, Geriatrics, 9: 111-115, March 1954.

63. Mason, R. M.: Effect of phenylbutazone on uric acid metabolism, Brit. M. J., 1:788-792, April 3, 1954.

64. Matthews, B. F.: Quoted in "First World Conference on Medical Education." British M. Jr., 2:550, Sept. 5, 1953.

65. McEwen, C.: Am. Rheum. Assoc. cooperative study of cortisone therapy in rheumatoid arthritis (interim report), Proc. Ann. Meet., Am. Rheum. Assoc., 1954, Ann. Rheum. Dis. (in press).

66. Medical News: International rheumatic fever study, J.A.M.A., 150:1024, Nov. 8, 1952.

67. Ogryzlo, M. A.: Diffuse systemic rheumatoid disease, Proc. Ann. Meet., Am. Rheum. Assoc., 1953, Ann. Rheum. Dis., 12:323,326, Dec. 1953.

68. Peterson, R. E., Guerra, S. L., Wyngaarden, J. B., Brodie, B. B., and Bunim, J. J.: The physiological disposition and fate of hydrocortisone and cortisone in man and animal, Proc. Ann. Meet., Am. Rheum. Assoc., 1954, Ann. Rheum. Dis. (in press).

69. Platoff, G. E.: A clinical study of phenylbutazone (Butazolidin) in various types of arthritis, J. Michigan State Med. Soc., 52:980-985, Sept. 1953.

70. Poppi, A., Labo, G., Lenzi, G., and Rosa, L.: Epidemiology of rheumatic fever in a rural district in Italy, with particular reference to some environmental factors, Ann. Rheum. Dis., 12:310-314, Dec. 1953.

71. Ragan, C.: Panel discussion: Am. Rheum. Assoc. cooperative study of cortisone therapy in rheumatoid arthritis, Proc. Ann. Meet., Am. Rheum Assoc., 1953, Ann. Rheum. Dis., 12:329-335, Dec. 1953.

72. Rantz, L. A.: The natural history of hemolytic streptococcal infection in childhood, Proc. Ann. Meet., Am. Rheum. Assoc., 1954, Ann. Rheum. Dis. (in press).

73. Reinhardt, W. O., and Li, C. H., Experimental production of arthritis in rats by hypophyseal growth hormone, Science, 117:295-297, March 20, 1953.

74. Robinson, W. D.: The present day treatment of rheumatoid arthritis, Postgraduate Med., 14:206-213, Sept. 1953.

75. Robinson, W. D., Boland, E. W., Bunim, J. J., Crain, D. C., Engleman, E. P., Graham, W., Lockie, L. M., Montgomery, M. M., Ragan, C., Ropes, M. W., Rosenberg, E. F., and Smyth, C. J.: Rheumatism and arthritis: review of American and English literature of recent years (Tenth Rheumatism Review); Part I, Ann. Int. Med., 39:563-590, Sept. 1953; Part II, Ann. Int. Med., 39:757-906, Oct. 1953.

76. Robinson, W. D., French, J., and Duff, I. F.: Polyarteritis in rheumatoid arthritis, Proc. Ann. Meet. Am. Rheum. Assoc., 1953, Ann. Rheum. Dis., 12:323, Dec. 1953.

77. Rowe, R. D., McKelvey, A. D., and Keith, J. D.: Use of ACTH, cortisone and salicylates in the treatment of acute rheumatic fever, Can. M. Assn. J., 68:15, 1953.

78. Salassa, R. M., Keating, R., Jr., and Sprague, R. G.: Clinical aspects of suppression of adrenal cortical function after use of cortisone, Proc. Staff Meet., Mayo Clin., 28:662-668, Nov. 18, 1953.

79. Short, C. L.: Reynolds, W. E., Bauer, W., and Beauregard, J. M.: Rheumatoid arthritis with remissions: a study of eighty patients. Proc. Ann. Meet., Am. Rheum. Assoc., 1954, Ann. Rheum. Dis. (in press).

80. Sigler, J. W., and Ensign, D. C.: Gouty arthritis: diagnosis and treatment, J. Michigan State Med. Soc., 52:959-962, Sept. 1953.

81. Slocumb, C. H.: Relative cortisone deficiency simulating exacerbation of arthritis, Bull. Rheum. Dis., 3:21, 1952.

82. Slocumb, C. H.: Rheumatic complaints during chronic hypercortisonism and syndromes during withdrawal of cortisone in rheumatic patients, Proc. Staff Meet., Mayo Clin., 28:655-657, Nov. 18, 1953.

83. Smith, R. T., Strickland, S. C., Maguire, E. F., and Hermann, I. F.: Benemid in gout, Eighth Internat. Cong. Rheum. Dis., Geneva, Aug. 24-28, 1953.

84. Smyth, C. J.: Rheumatoid spondylitis: its diagnosis and treatment, South Dakota J. Med. and Phar., 6:347-350, Dec. 1953.

85. Smyth, C. J.: Discussion of paper by Engleman, E. P.[28]

86. Snow, W. G.: Phenylbutazone: an evaluation of its use, Calif. Med., 79:211-213, Sept. 1953.

87. Stecher, R. M.: Heredity of joint diseases, Eugenics Quart., 1:16-20, March 1954.

88. Stecher, R. M., Hersh, A. H., Solomon, W. M., and Wolpaw, R.: The genetics of rheumatoid arthritis: analysis of 224 families, Am. J. Human Genet., 5:118-138, June 1953.

89. Steinbrocker, O.: Discussion of paper, by Engleman, E. P.[28]

90. Steinbrocker, O., Neustadt, D. H., and Ehrlich, M.: Butazolidin in the treatment of gout with a comparison with other agents, Med. Clin. N. Am., 38:611-624, March 1954.

91. Stollerman, G. H., Glock, S., Patel, D. J., Hirschfeld, I., and Rusoff, J. H.: Determination of C-reactive protein in serum as a guide to the treatment and management of rheumatic fever, Am. J. Med., 15:645-655, Nov. 1953.

92. Stollerman, G. H., Rusoff, J. H., Hirschfeld, I.: Prophylaxis against group A streptococci in rheumatic fever patients by the use of single monthly injections of N,N'Dibenzylethylenediamine dipenicillin G, Proc. Ann. Meet., Am. Rheum. Assoc., 1954, Ann. Rheum. Dis. (in press).

93. Talbott, J. H.: Diagnosis and treatment of gouty arthritis, Calif. Med., 79:220-226, Sept. 1953.

94. Talbott, J. H., and Lockie, L. M.: The treatment of gout, Geriatrics, 8:599-610, Nov. 1953.

95. Toone, E. C., Jr., and Irby, W. R.: Evaluation of phenylbutazone (Butazolidin) in the treatment of rheumatoid spondylitis; report of 50 cases, Ann. Int. Med., 41:70-78, July 1954.

96. Waine, H.: Review of rheumatic diseases, Arch. Int. Med., 93:121-161, Jan. 1954.

97. Weinberger, H. E.: Discussion of paper by Robinson, W. D.[6]

98. Wilson, D.: Observations of the synovial membrane in cases of rheumatoid arthritis treated by cortisone, Eighth Internat. Cong. Rheum. Dis., Geneva, Aug. 24-28, 1953.

99. Wilson, H., Fairbanks, R., McEwen, C., and Ziff, M.: Studies of the metabolism of adrenal cortical steroids in the synovial cavity in rheumatoid arthritis, Proc. Ann. Meet., Am. Rheum. Assoc., 1954, Ann. Rheum. Dis. (in press).

100. Wilson, H., Glyn, J., Scull, E., McEwen, C., and Ziff, M.: Rate of disappearance and metabolism of hydrocortisone and cortisone in the synovial cavity in rheumatoid arthritis, Proc. Soc. Exp. Biol. and Med., 83:648, 1953.

101. Wilson, M. G., Helper, H. N., Lubschez, R., Hain, K., and Epstein, N.: Effect of early short-term hormone therapy in active rheumatic carditis, Proc. Ann. Meet., Am. Rheum. Assoc., 1953, Ann. Rheum. Dis., 12:341-344, Dec. 1953.

102. Wilson, M. G., Helper, H. N., Lubschez, R., Hain, K., and Epstein, N.: Effect of short-term administration of corticotropin in active rheumatic carditis, Am. J. Dis. Child., 86:131-146, Aug. 1953.

103. Yu, T. F., Sirota, J. H., and Gutman, A. B.: Effect of phenylbutazone (3, 5-dioxo-1, 2-diphenyl-4-n-butylpyrazolidine) on renal clearance of urate and other discrete renal functions in gouty subjects, J. Clin. Invest., 32:1121-1132, Nov. 1953.

104. Zivin, S., Steck, I. E., Montgomery, M. M., Kaiser, G. D., and Bennett, G. A.: An evaluation of the effects of cortisone on the subcutaneous nodules of patients with rheumatoid arthritis, J. Lab. and Clin. Med., 43:70-78, Jan. 1954.

x1. Bunim, J. J., Pechet, M. M., and Bollett, A. J.: Preliminary observations on the antirheumatic potency, metabolic effects and hormonal properties of Metacortandralone and Metacortandracin, presented at Interim Session of Am. Rheum. Assoc. at the Nat. Institutes of Health, Bethesda, Md., Nov. 4, 1954.

x2. Boland, E. W., and Headley, N. E.: Data to be published.

x3. Ward, L. E., Polley, H. F., Slocumb, C. H., Hench, P. S., Mason, H. L., Mattox, V. R., and Power, M. H.: The effects of Aldosterone (Electrocortin) and 9a-Fluorohydrocortisone Acetate on rheumatoid arthritis, preliminary report, Proc. Staff Meet. Mayo Clin., 29:649-663, Dec. 22, 1954.

Gastric Polyposis

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• *In a series of 48 cases of gastric polyps, 40 patients had benign lesions while the polyps in the remaining eight cases were malignant. Although the symptomatology in this series was not uniform, only one patient was entirely asymptomatic. Of the eight patients with malignant lesions, three had polyps which could well be described as small, suggesting that size may not be a reliable criterion of benignity even in a single lesion.*

Laboratory studies indicated that anemia, achlorhydria and occult blood in the stools are frequently associated with gastric polyps. There was no apparent correlation, however, between these phenomena and the benign or malignant nature of the lesions.

X-ray examination, performed in every instance, was completely negative in six cases and inconclusive in an additional five. Gastroscopy did not reveal the presence of polyps in three of 15 cases. Malignant change was detected by cytologic examination in one case in which both roentgen and gastroscopic examination were negative.

The author believes that in most cases of gastric polyps operative treatment affords the greatest degree of safety. An operative procedure of considerably less extent than total gastric resection often is feasible. However, if true polyps occur where removal can be effected only by total gastric resection, the incidence of malignant change in these lesions would seem to indicate the advisability of such a procedure unless positive contraindicating conditions are present.

Although gastric polyps were first identified at autopsy in 1761, almost a century elapsed before the first clinical diagnosis was made. Even with the advent of roentgenoscopy, first used in the diagnosis of gastric polyps in 1911 by Heinz,[11] and more recently of gastroscopy following Schindler's successful application of this method in 1922,[1] antemortem diagnosis has remained relatively infrequent. Most investigators agree that the reported incidence does not reflect the true occurrence of these lesions, since they tend to produce only mild symptoms or to remain completely asymptomatic for long periods.

Opinion has been considerably more divergent, however, regarding the preferred method of treatment. Behind this disagreement lies the crucial question of whether benign gastric polyps may act as precursors of carcinoma or undergo malignant degeneration with sufficient frequency to warrant surgical removal.

A review of the literature in 1950 by Edwards and Brown[3] emphasized the long-standing division among investigators on this vital point. Many believe that most benign-appearing gastric polyps should be surgically removed owing to the incidence of malignant degeneration and the uncertainty of all available diagnostic procedures in detecting malignant transformation.[3, 7, 8, 13] Since Brunn and Pearl[1] published their comprehensive report in 1926, various investigators have reported manifestations of malignant change in from 6 per cent to 51 per cent of cases.[9] Edwards and Brown[3] felt that gastric carcinoma frequently occurs in association with benign gastric polyps and that malignant degeneration may take place in apparently benign lesions. In 1951, Klein and Geller[7] described a case which they believed afforded clinical demonstration of malignant transformation. In a discussion of cases observed at Lahey Clinic, Marshall[8] (1952) reported that 30 per cent of the gastric polyps removed by excision or partial gastric resection were malignant.

At the same time, other investigators expressed the opinion that malignant degeneration is sufficiently unlikely in benign polyps to make conservative treatment the procedure of choice in many instances.[2, 6, 9] A recent article by Hay[6] (1953) emphasized this view and the clinical factors upon which it rests. After observing asymptomatic patients with benign-appearing lesions who were subjected to operation on the grounds that the lesions might be precancerous, Hay felt that the risk of surgical treatment might be greater than that of malignant degeneration and undertook a further study of the differential diagnosis between benign and malignant adenomas. He concluded that those patients who are asymptomatic or mildly symptomatic, with polyps less than 2 cm. in diameter which appear benign to the gastroscopist and the roentgenologist should not be operated upon, but should

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TABLE 1.—*Gastric polyps, 1919-1951*

	Single	Multiple
Men	7	18
Women	13	10
Total	20	28

TABLE 2.—*Symptoms of gastric polyps*

	Benign	Malignant
Epigastric distress—fullness, non-radiating pain, heaviness	21	4
Abdominal pain	7	1
Anorexia and nausea	3	5
Vomiting	4	4
Diarrhea	6	1
Tarry stools	2	3
Weakness	3	2
Constipation	3	1
Belching and sour stomach	5	1
Dyspnea	4	..
Weight loss	2	2
Dysphagia	1	..
Asymptomatic	..	..

be observed every three to four months for the first year and biannually thereafter. He favored operation if the polyps are larger than 2 cm. in diameter, if malignancy is suspected on the basis of gastroscopy or x-ray examination, if the clinical symptoms are severe, and in patients who cannot be adequately followed.

Recent observation of a degenerative course in three patients who at original clinical examination appeared to have benign gastric polyps prompted a review of all cases treated on the Medical and Surgical Services of the University of California Hospital during the last three decades.

During the 32-year period from 1919 to 1951, 48 patients with gastric polyps were observed. In 40 cases the polyps were benign, in eight, malignant. As indicated in Table 1, the series as a whole closely reflects the equal incidence in men and women cited by several investigators. However, there was a considerably higher incidence of multiple polyps in men than in women. The largest single group was made up of patients in the seventh decade of life. The youngest patient in the series was 16 years of age, and the oldest was 77, while the average age was 55 years. The distribution by decades was as follows: 10-19 years, one patient; 30-39, seven; 40-49, ten; 50-59, eight; 60-69, fourteen; 70-79, eight.

The symptomatology of gastric polyps is neither clear-cut nor uniform. Table 2 summarizes the symptoms observed in the present series. Epigastric distress, present in over half of the cases in the series, is probably the complaint most frequently encountered upon clinical examination, as has been noted in other reports. Abdominal pain, anorexia and vomiting or nausea each occurred in eight cases, while diarrhea, the next most prevalent symptom, was present in seven cases. Only one patient with gastric polyps was free of symptoms referable to the stomach. This is in striking contrast to some reports in which approximately 45 per cent of the patients with benign lesions were considered asymptomatic.[6]

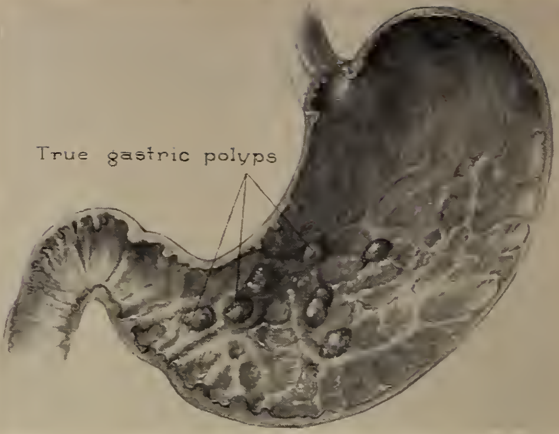

Figure 1.—The adenomatous nature of this type of gastric polyp is evident. The mucosa is either normal or somewhat atrophic.

It is characteristic of gastric polyps that symptoms may persist for many years. In the present series six patients had had varying degrees of discomfort for more than ten years; four for five to ten years; six for two and a half to five years; ten for one to two and a half; nine for six months to one year; nine for one month to six months, and three for less than one month. There were two patients with malignant lesions in this group, one of whom had had epigastric distress for 20 years, while the other had had sour stomach and flatulence for as long as 11 years. One patient with a benign lesion had had constipation for 30 years and abdominal pain for six; another whose polyp was benign had had epigastric distress for 15 years. A recent increase in severity of symptoms had occurred in seven cases, three of which were subsequently proved to be malignant. From our series, it would seem that neither the duration nor the severity of symptoms in gastric polyps is sufficient to provide a basis for differential diagnosis as to malignant or benign lesions.

Most reports in the literature have indicated that gastric polyps are only rarely associated with polyps elsewhere in the intestinal tract. In this series gastric polyps occurred in association with polyps in other segments of the intestine in only four cases—in the rectum in two cases and in the duodenum in two.

From the standpoint of malignant degeneration, the pathologic features of these lesions are especially significant. In 1888, Menetrier identified and described two kinds of multiple gastric polyps.[1] One type is composed of discrete lesions scattered over the surface of the mucosa. The polyps may arise from the mucosa by pedicles of varying length, or may lack this stalklike structure entirely and emerge broad-based from the mucous membrane (Figure 1).

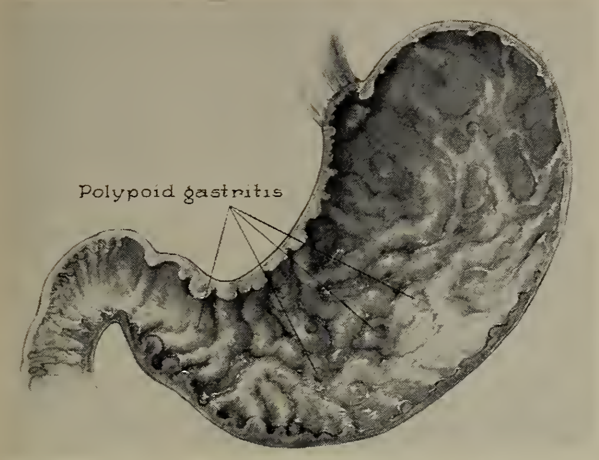

Figure 2.—Note the irregular plaque-like masses superimposed upon the hypertrophied gastric mucosa.

In the second type, the polyps occur as clearly defined plaques or masses on the periphery of the folds of hypertrophic mucosa (Figure 2). The precise nature of these two patterns of overgrowth of gastric mucous membrane, namely, the true adenomas (Figure 3) and the inflammatory hyperplasias, has been a matter of considerable discussion. In the latter instance, the pathologic changes are those of hyperplastic chronic gastritis, wherein hyperemia and edema of the enlarged and tortuous gastric rugae are prominent features (Figure 4). Although polypoid gastritis is not neoplastic in itself, but rather represents areas of metaplasia and irregular clusters of cells, true adenomas developing upon the hypertrophic gastric folds have been described by some investigators. Undoubtedly some cases previously described as gastric polyps have in reality been polypoid hypertrophic gastritis. Although such conditions may seriously affect health, there is general agreement that there is less risk of malignant change in polypoid gastritis than in true adenomatous polyps of the stomach.

It is unfortunate that so ambiguous a term as "gastric polyposis," which has been used to indicate multiple polyps of either type, has been so widely adopted. Had the two terms "polypoid adenomas of the stomach" and "polypoid gastritis" been consistently applied instead, there would undoubtedly have been far less confusion as to the exact type of pathological entity involved.

Some investigators have used the term "polyposis" to apply only when three or more polyps were present and have classified cases of two polyps as single. It is the author's feeling, however, that any case in which there is more than one polyp should be considered as multiple. Cases are so tabulated herein. Thus in this series, there were 28 cases in which more than one polyp was present; in 14 of them the lesions were discrete, while in the remaining 14 diffuse polyposis was present in association

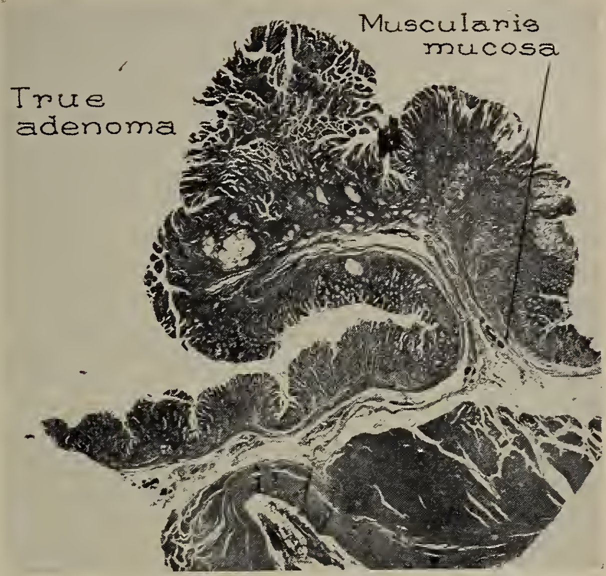

Figure 3.—The villous nature of this type of true polyp is evident. The stalk includes the muscularis mucosae. Edema and increased vascularity are not prominent features.

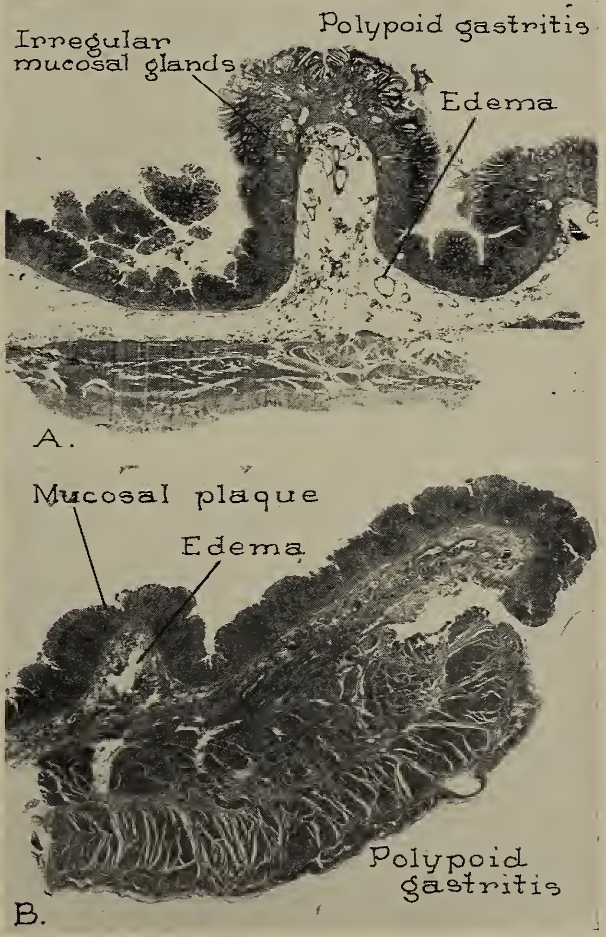

Figure 4. *A*—Note the edema and the enlarged vascular channels in the submucosa extending up as a stalk to form a pseudopolyp. *B*—The mucosal glands are distorted and hypertrophied.

with hypertrophied gastric mucosa. Four of the patients in the former group had two polyps each, while nine had from three to six polyps and one had 15.

Laboratory studies have demonstrated some uniformity of findings in gastric polyps, both in the present series and in reports of other investigators. The results of blood studies in 37 cases were available. In 18 cases the hemoglobin content was within normal limits, while in 19 cases varying degrees of anemia were observed. Of the eight patients with malignant lesions, four had subnormal hemoglobin content (values as low as 74 per cent) while three were within normal limits and in one case the data were not available. However, in this series, some patients with benign disease had greater degrees of anemia than did those with malignant lesions. Of the patients with benign lesions six had hemoglobin values of less than 65 per cent, while in one case the value was as low as 12 per cent.

Achlorhydria was frequently present. No free acid was detected in 27 of 32 cases in which gastric analysis was done; in the other five acidity was normal. The lack of gastric acid appears to be even more common in multiple polyps than in actual carcinoma of the stomach; in fact Tempest[11] reported achlorhydria in about 95 per cent of cases.

Laboratory records of stool studies for occult blood were available in 40 cases. In 24 the results were negative; in 14 the reaction for occult blood ranged from 1 plus to 4 plus, and in two others was "strongly positive." No occult blood was detected in four of the eight patients with malignant polyps; results were positive in two cases, and in the remaining two no data were available. Of the five patients with occult blood of 4 plus, four had benign lesions. Thus, it would seem apparent that while anemia, achlorhydria and occult blood in the stools are rather frequently associated with gastric polyps, the findings are by no means indicative of benign or malignant nature of the lesions.

Much of the discussion concerning malignant degeneration has hinged around the effectiveness of roentgenographic and gastroscopic examination in establishing a differential diagnosis.[2, 8] In the report upon their first series Brunn and Pearl stated that a definite abnormality had been observed in every case in which x-ray studies were accomplished. Their subsequent observations, however, indicated that a definite diagnosis could not always be made by this means.[10] Edwards and Brown[3] reported that x-ray investigation was diagnostic in 55 per cent of 31 cases on first examination, or 84 per cent including "suspicious" cases and those in which filling defects were noted.

In the present series, roentgenographic examination was performed in every instance. In 32 (66 per cent) polyps were indicated in the first examination. In an additional five cases, the polyps were misdiagnosed as another disease or overlooked entirely, while in five other instances polyps were identified only as "growths" or "filling defects." In six cases (12.5 per cent) the roentgenogram was negative for any disease of the stomach. Of the eight patients with malignant lesions, polyps were diagnosed roentgenographically in six, while filling defects were noted in the remaining two. In two instances, the possibility of malignant disease was indicated on the basis of the roentgen examination.

Gastroscopy was performed in 15 cases in this series. In three cases, gastroscopic diagnosis was negative, while x-ray examination indicated the presence of polyps. Similarly, in three other cases the x-ray diagnosis did not indicate any disease of the stomach, whereas polyps were detected by gastroscopy. In one additional case, the abnormality was diagnosed as ulcer on x-ray examination but identified as polyps by gastroscopy. This comparison would serve to support the view expressed by Paul and Logan[9] and others that the two methods are complementary as diagnostic procedures. More significant, however, from the standpoint of this analysis is the fact that in an appreciable proportion of cases, both methods may fail to reveal the presence of the gastric lesion. In one series reported in the literature, the benign or malignant nature of the polyps could not be diagnosed by either technique in approximately one-third of the cases.[5]

Most investigators who favor a period of medical observation for the majority of benign cases usually base their decision as to which lesions should be treated nonsurgically in part on the size of the polyp. In the present series the largest single lesion was approximately 10 cm. in diameter, while in six cases the polyp was 2 cm. or less in diameter. In six other cases no indication of size was recorded, while the remainder of the single lesions were between 3 and 7 cm. Of particular significance, however, is the fact that in three of the cases in which there was evidence of malignant degeneration the polyps were 2 cm. or less in size. In one case, one polyp was present; another involved three polyps, while in a third case of discrete polyposis none of the polyps observed exceeded 2 cm. The experience in this limited number of cases suggests that the size of the lesion has no definitive diagnostic relationship to possible malignant degeneration.

Recently the author applied cytologic examination as a method of studying gastric polyposis. By means of papain lavage, rich cellular material from the gastric mucosa may be obtained for direct observation. This technique has proved its effectiveness in detecting malignant disease when both x-ray and gastroscopic studies have been inconclusive (see

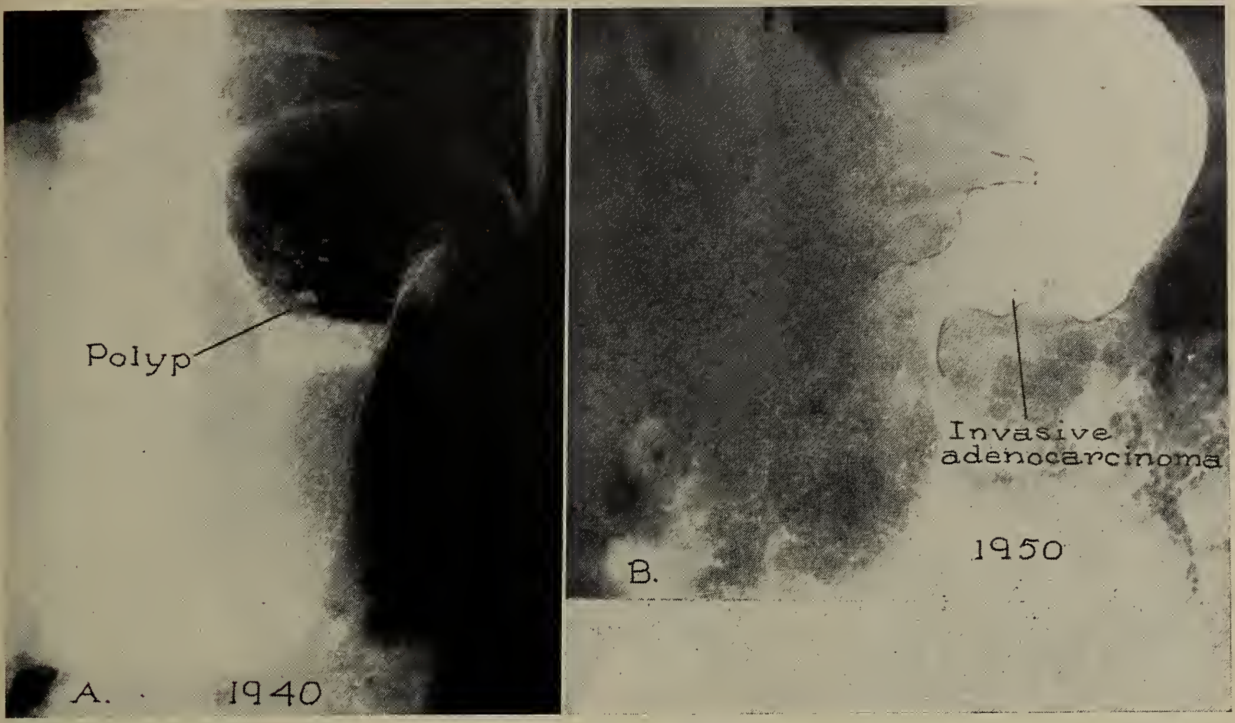

Figure 5. *A*—Polyp on the anterior wall of the upper stomach. *B*—Repeat x-ray studies in the presence of clinical symptoms demonstrated a large infiltrating gastric carcinoma in the exact site of the gastric polyp noted ten years previously.

Case 2 below). Papain lavage was not used in a sufficient number of cases in the series to warrant definitive conclusions. However, it has proved of value in the diagnosis of gastric cancer.[4] It is to be anticipated that as increasing numbers of cases are observed by this method, it may well provide a means of further establishing benignity or malignancy of gastric polyps and a technique which can be applied to the detection of malignant change in subsequent follow-up of benign cases.

At present, however, the possibility of malignant degeneration seems sufficiently established, and the detection of polyps or the malignancy of polyps sufficiently uncertain as to make surgical removal necessary to insure the greatest degree of safety for most patients. Three cases in the present series particularly emphasize the tendency of benign polyps to undergo malignant change. A detailed review of these cases is presented below:

CASE REPORTS

Case 1. The patient, 67 years of age, was observed in the out-patient department on June 15, 1940, at which time a small area of tenderness was noted on deep palpation directly over the epigastrium. X-ray examination indicated pronounced hypertrophic gastritis with a questionable small soft tissue mass in the fundic portion of the stomach. The patient refused gastroscopy. On May 13, 1941, a second x-ray examination revealed a polyp 12 mm. in diameter on the anterior wall of the stomach 7 cm. below the diaphragm. This diagnosis was confirmed by two subsequent roentgenograms. Operative removal was suggested but the patient refused.

Ten years later, in June 1951, the patient was observed in the surgical clinic. For the previous six months she had noticed epigastric distress, not particularly related to meals. Progressively increasing dysphagia had been present for three months; during the preceding three weeks the patient had only been able to take fluids and had had frequent regurgitation. There had been a recent loss of weight, but neither hematemesis nor melena was present.

X-ray examination was again carried out, and the diagnosis was obstructing carcinoma of the upper stomach invading the esophagus. At this examination the radiologist observed, "It is very interesting to note that ten years ago this patient was examined in this department and a single small polyp was seen in the exact location of the present carcinoma" (Figure 5). Exploratory laparotomy was carried out but the growth was so extensive that only palliative gastrostomy was done. The pathologist's report confirmed the x-ray diagnosis of carcinoma at the cardioesophageal junction.

This case, which is similar to that reported by Klein and Geller,[7] would seem to provide clinical demonstration of malignant degeneration of a gastric polyp.

Case 2. A 65-year-old woman entered the hospital on June 18, 1951. Her history indicated that 20 years previously she had noted an episode of epi-

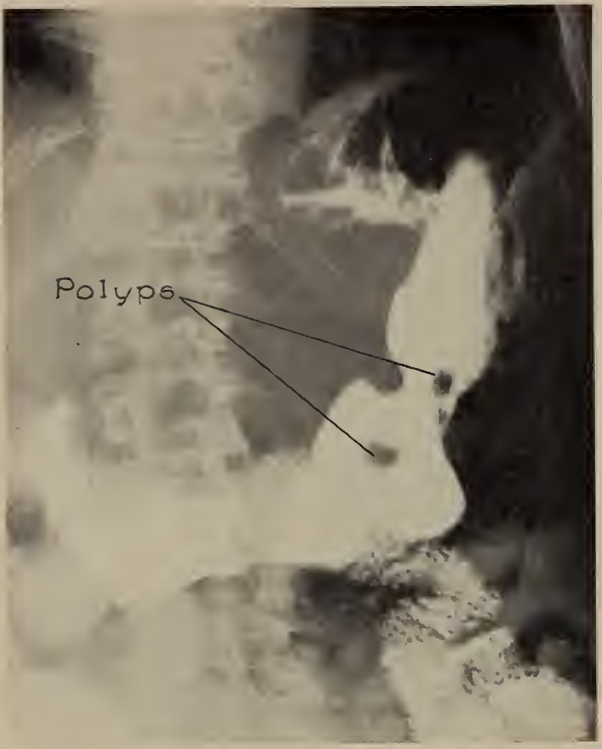

Figure 6.—The two polypoid masses were demonstrated by gastrointestinal study. Preoperative cytologic study indicated the presence of "cells suspicious for malignancy." Numerous true adenomas, one of which was malignant, were found at operation.

gastric heaviness after eating, and loss of appetite. At that time a diagnosis of atrophic gastritis was made, and the patient was treated for vitamin deficiency. In 1947 x-ray and gastroscopic examination had been performed and gastric polyposis was diagnosed. Films taken in 1948 and in May 1951 also showed the polyps. Just before hospitalization, a series of "nervous upsets" had brought on a recurrence of indigestion. The patient had never had vomiting, hematemesis, severe abdominal pain, constipation or melena. Symptoms were confined to the upper abdomen. The patient said that she had a "total lack of acid" and that she took hydrochloric acid with each meal. There had been no significant loss of weight.

X-ray examination on the day following admission again indicated gastric polyposis (Figure 6), and the radiologist noted that two of the polyps in the pars media appeared larger than in previous films. Two days later gastroscopic examination was performed. No evidence of infiltration was observed, but in comparison with the gastroscopic examination of June 1947, the polyps on the angulus appeared to have increased in size, and there were others on the posterior wall that had not been noted on previous examination. The gastroscopic diagnosis was gastric polyposis and general atrophic gastritis. Neither x-ray nor gastroscopic examination indicated possible malignancy.

Cytologic examination was then performed, using the papain lavage technique. Among the material aspirated from the gastric mucosa, several cells "suspicious for malignancy" were detected.

On June 25, 1951, operation was carried out. Numerous polyps, all entirely within the distal three-fifths of the stomach, could be palpated through the intact gastric wall. Because of these findings and the preoperative indication of possible malignant change subtotal gastrectomy was carried out.

Upon examination of the pathologic specimen multiple sessile polypoid structures up to 1.0 cm. in diameter were noted on both the anterior and the posterior gastric walls. There was a polypoid mass 2.0 cm. in diameter on the anterior wall. Microscopically, irregular areas of thickening and thinning of the gastric mucosa were observed. The sessile polypoid masses were composed of redundant mucous glands. Some of the cells showed a variation in total as well as nuclear size. In one polyp there were some papillary proliferation in one dilated gland structure near its surface. Multiple papillary projections and much cellular pleomorphism were present, and mitoses were frequent. No invasion of the submucosa or muscular coats was noted, and the lymph nodes along both greater and lesser curvature contained no metastatic malignant cells.

In the foregoing case of multiple gastric polyps, although only one lesion proved to be malignant, preoperative cytologic examination indicated the possibility of malignancy.

Case 3. A woman 67 years of age was admitted to the University of California Hospital on March 3, 1951, for abdominal exploration on the basis of x-ray (Figure 7) and clinical findings. She had been seen in the surgical clinic on February 20, at which time she reported a loss of 25 to 30 pounds in body weight during the preceding six months. Considerable nausea and anorexia had occurred, but the patient had had only one episode of vomiting with hematemesis during that time. Occasionally a vague sense of epigastric fullness had been present, and diarrhea usually lasting two to three days had occurred about once a week.

The patient was operated upon March 5. When the peritoneal cavity was entered a small polyp was observed in the prepyloric area, and subtotal gastrectomy was carried out; three-fourths to four-fifths of the stomach was removed. The specimen was examined and found to contain two polyps in the antral area. There was a third small polyp on the posterior gastric wall immediately above the proposed line of anastomosis. It was decided, however, that total gastric resection, which would have been necessary in order adequately to excise the remaining lesion, was not indicated. This small lesion was therefore coagulated by means of the electrosurgical unit and an antecolic Mayo-Polya anastomosis was carried out. Pathological diagnosis indicated two gastric polyps, both of which showed focal adenocarcinoma in situ.

The patient was examined in the surgical clinic every six months after operation without evidence of recurrence until January 1954, when obstructive

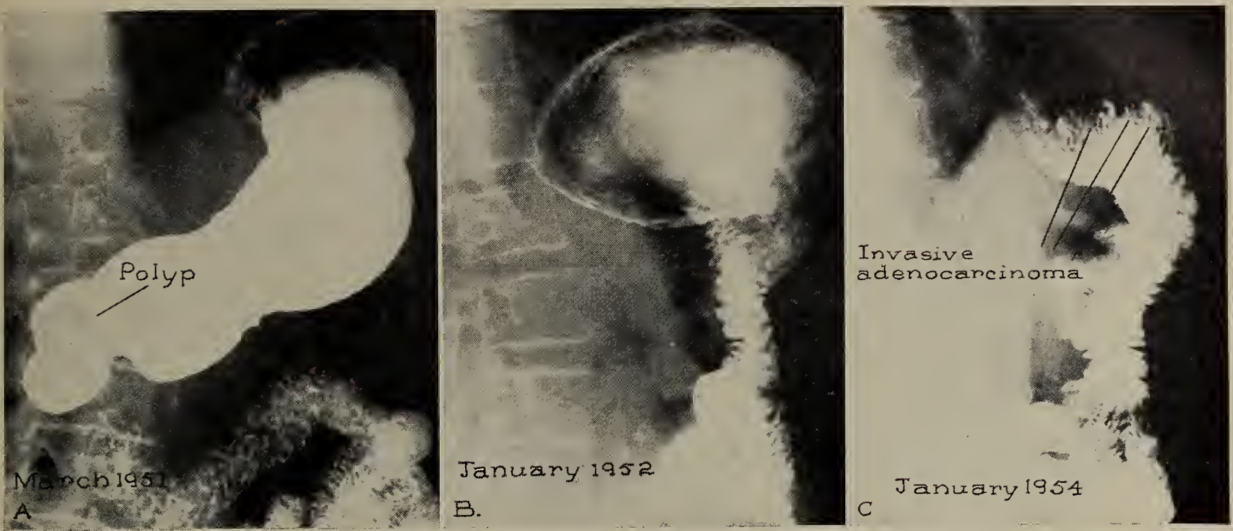

Figure 7.—Roentgen studies indicated a polyp in the prepyloric area. At operation a polyp high in the stomach (*A*) was electrocoagulated. Follow-up studies a year later showed no apparent disease. A well-functioning gastroenterostomy was present. (*B*) Obstructive symptoms developed three years after operation. (*C*) The entire gastric pouch was replaced by malignant disease.

symptoms were noted for the first time. She was observed at short intervals thereafter until March 1954, when x-ray evidence of stricture and the development of severe dysphagia led to emergency hospitalization. At operation March 11, 1954, a combined thoracoabdominal incision was made. A hard 10 cm. mass, which grossly was carcinomatous in character, was found in the residual stomach. It extended retroperitoneally into the region of the celiac axis and the aorta, and into the cardioesophageal junction. The remnant of stomach was removed and esophagojejunal anastomosis was done. Pathologic diagnosis indicated adenocarcinoma of the stomach with extension into the esophagus and jejunum with metastasis to lymph nodes.

The history and the subsequent course in the foregoing case strongly suggest that the third polyp which was present but not removed at the time of the first operation also contained adenocarcinoma and that it was not completely destroyed by the electrocauterization.

DISCUSSION

The three cases reported illustrate the malignant degeneration that may occur with nonoperative treatment. The author believes that in view of the degree of uncertainty inherent in all the diagnostic procedures now available, surgical removal is most likely to afford the patient the greatest degree of safety in most instances. It has been pointed out in several series reported in the literature that polyps tend to appear most often in the distal half or two-thirds of the stomach. In 21 of the 34 patients in the present series who were operated upon, the polyps were so located as to permit complete removal by either a Billroth I operation or subtotal gastric resection. In view of the malignant potential of these lesions, gastrectomy is probably the procedure of choice. However, as in this series wherein simple polypectomy was performed in 11 cases, wide local excision of the lesion with a generous segment of the gastric wall about the base of the polyp may be entirely adequate for single lesions. In such cases, however, immediate pathologic diagnosis of the excised specimen is necessary, and if malignant change exists gastric resection should be performed. Total gastrectomy was carried out in one of the two remaining patients treated operatively (both of whom had malignant change) while in the other the operative procedure was terminated after gastrostomy was performed to relieve cardioesophageal obstruction.

The author is of the opinion that if evidence of malignant change is present preoperatively and if many polyps involving the entire stomach are present at the time of operation, the principle of total gastric resection can logically be entertained. In an appreciable number of such cases, the continuity of the intestinal tract can be reestablished by simple esophagoduodenostomy or by the use of colon or jejunal segments to replace the excised stomach.

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REFERENCES

1. Brunn, H., and Pearl, F.: Diffuse gastric polyposis: Adenopapillomatosis gastrica. Report of five proven and seven probable cases, Sur., Gyn. and Obst., 43:559-598, 1926.

2. Carey, J. B., and Hay, L. J.: Gastric polyps, Gastroenterology, 14:280-286, Feb. 1950.

3. Edwards, R. V., and Brown, C. H.: Benign gastric polyps and their relation to carcinoma of the stomach, Gastroenterology, 16:531-538, November 1950.

4. Grimes, O. F., Traut, H. F., Wood, D. A., and Farber, S. M.: A clinical report on the cytologic diagnosis of gastric cancer, Sur., Gyn. and Obst., 98:347-352, March 1954.

5. Hardt, L. L., Steigman, F., and Milles, G.: Gastric polyps, Gastroenterology, 11:629-639, November 1948.

6. Hay, L. J.: Polyps and adenomas of the stomach, Surgery, 33:446-467, March 1953.

7. Klein, H. C., and Geller, J. S.: Gastric polyp to gastric carcinoma, Gastroenterology, 17:442-444, March 1951.

8. Marshall, S. F.: Gastric polyposis, Surg. Clin. N. Am., 32:857-865, June 1952.

9. Paul, W. D., and Logan, W. P.: Polyps of the stomach with reference to the gastroscopic findings, Gastroenterology, 8:592-606, May 1947.

10. Pearl, F. L., and Brunn, H.: Multiple gastric polyposis, Surg., Gyn. and Obst., 76:257-281, March 1943.

11. Spriggs, E. I., and Marxer, O. A.: Polyps of the stomach and polypoid gastritis, Quart. J. Med., 12:1-60, 1943.

12. Tempest, M. N.: Diffuse polyposis of the stomach: report of a case, Brit. J. Surg., 38:525-526, April 1951.

13. Wise, R. A.: Diffuse polyposis of the stomach, total gastrectomy, Arch. Surg., 61:95-101, July 1950.

The A.M.A. and Federal Legislation

TROUBLE, tragedy, and dissension are the major ingredients in the news today. Little attention is given to activities involving progress and agreement. Health legislation provides a good illustration of that point. During the past year or more the American public has become aware of the fact that the American Medical Association opposed the federal reinsurance proposal, disapproved of two provisions in the Social Security Act amendments, and disagreed with the government policy on medical care for veterans with nonservice-connected disabilities. Unfortunately, however, the public is not equally aware that during that same period of time the A.M.A. was giving active support to a large number of constructive legislative proposals involving medicine and health. We believe, therefore, that some long-overdue attention should be paid to the positive side of the record.

That record shows that the A.M.A. supported 11 of the 15 major medical bills that were enacted into law by the 83rd Congress. The Association opposed only two of the 15, and took no stand on the other two. The 11 proposals that the A.M.A. favored and which became public law were as follows:

Expansion of the Hill-Burton Hospital Construction Act to help finance the building of new nonprofit health facilities
Extension of the regular Hill-Burton Act to 1960
Lowering of the medical expense tax deduction from 5 per cent to 3 per cent
Extension of the "Doctor-Draft" law to 1955
Establishment of the Department of Health, Education, and Welfare
Establishment of the Hoover Commission on Organization of the Executive Branch of the Government
Establishment of the Commission on Intergovernmental Relations
Transfer of the Indian hospital and medical service from the Department of the Interior to the Public Health Service
Ban against the shipment of fireworks into states where their sale is illegal
A federal charter for the National Fund for Medical Education
Permission for oral narcotic prescriptions under certain conditions and limitations.

In addition to those 11 measures, the A.M.A. also supported two major proposals that were not acted on by the 83rd Congress. These were the administration bill to streamline Public Health Service grants to the states and the Jenkins-Keogh bills to stimulate the establishment of private pension plans by self-employed persons and by employees not covered by company plans.

We may be indulging in a bit of wishful thinking, but it would be helpful if the American people had more knowledge of the fact that the A.M.A. every year supports constructive legislation. The positive side of the story may not have blood-and-thunder news interest, but it spells out steady, continued progress in protecting the public health and welfare.

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Prostatic Carcinoma Involving the Rectum

The Problem of Differentiation from other Malignant Lesions

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• In a series of 150 cases of prostatic cancer, thirteen involved the rectum and presented the problem of differential diagnosis.

Although special studies were helpful, the resolution of the problem depended upon adequate biopsy for histological diagnosis. The treatment was palliative estrogen therapy and bilateral orchiectomy.

A DEFINITE CLINICAL and pathological diagnosis of carcinoma of the prostate is often reached with considerable difficulty. This is particularly true when the presenting symptoms or the palpable or visible lesion draw attention to an adjacent structure such as the anorectal canal, urinary bladder, seminal vesicles, bony pelvis, retroperitoneal space and embryonic remnants. The importance of the correct diagnosis is emphasized by the therapeutic and prognostic advances made in recent years for cancer of the prostate. Conversely, the results might be less favorable if the lesion were treated as arising from another source.

This article discusses the methods of differentiating carcinoma of the prostate involving the rectum from other malignant lesions.

INCIDENCE

The incidence of carcinoma of the prostate involving the rectum or other adjacent organs has not been determined, although carcinoma of the prostate is known to occur in about 20 per cent of men over 55 years of age and is the cause of death in about five per cent of white men over 50 years of age.[11]

In the present study reports of 13 cases of prostatic carcinoma involving the rectum were noted in reviewing the records of two general hospitals* for a period of 30 months. In the same period at these hospitals there were approximately 150 cases of prostatic cancer.

Young[29] noted that of approximately 800 cases of prostatic carcinoma, not over 12 involved the rectal mucosa. Jackson and Anderson[12] collected reports of 27 cases of rectal metastasis from carcinoma of the prostate in approximately eight years. Graves and Militzer[7] reported that in 81 cases of carcinoma of the prostate the rectal lumen was occluded in five. Kickham[15] reported that rectal invasion was noted in 12 of 132 cases of carcinoma of the prostate in which autopsy was done. Arnheim[1] reported perirectal invasion in 11 per cent of 176 cases of carcinoma of the prostate in which autopsy was done, but rectal invasion in only one case.

Since cancer of the prostate usually arises in the posterior lamella of the gland, the incidence might be even higher were it not for the double thickness of tough Denonvilliers fascia acting as a barrier between the prostate and rectum.

CLASSIFICATION OF LESIONS

Lazarus[16] classified carcinoma of the prostate involving the rectum into three categories: (1) Diffuse prostatopelvic mass occluding the rectal lumen by pressure, (2) intramural rectal tumor not involving the rectal mucosa, and (3) tumor extending through the entire rectal wall and into the rectal lumen as a fungating mass. Anderson and Jackson[12] had a similar classification: (1) Extrarectal carcinoma of the prostate occluding the rectal lumen and impeding a sigmoidoscope (52 per cent), (2) annular, stricturing, perirectal lesion due to prostatic carcinoma (7 per cent), and (3) carcinoma of the prostate invading the rectal mucosa with or without features of number one or two (41 per cent).

The author's classification, which adds a fourth category to the aforementioned three categories, is shown in Table 1 and illustrated in Figure 1.

TABLE 1.—*Classification of 13 cases of carcinoma of prostate involving the rectum*

Group	Number
1. Occluding rectal lumen	2
2. Annular, perirectal lesion	6
3. Invading rectal mucosa with or without features 1 and 2	3
4. Separate metastasis to rectosigmoid	2
Total	13

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*Wadsworth General Hospital, Los Angeles, and Harbor General Hospital, Torrance.

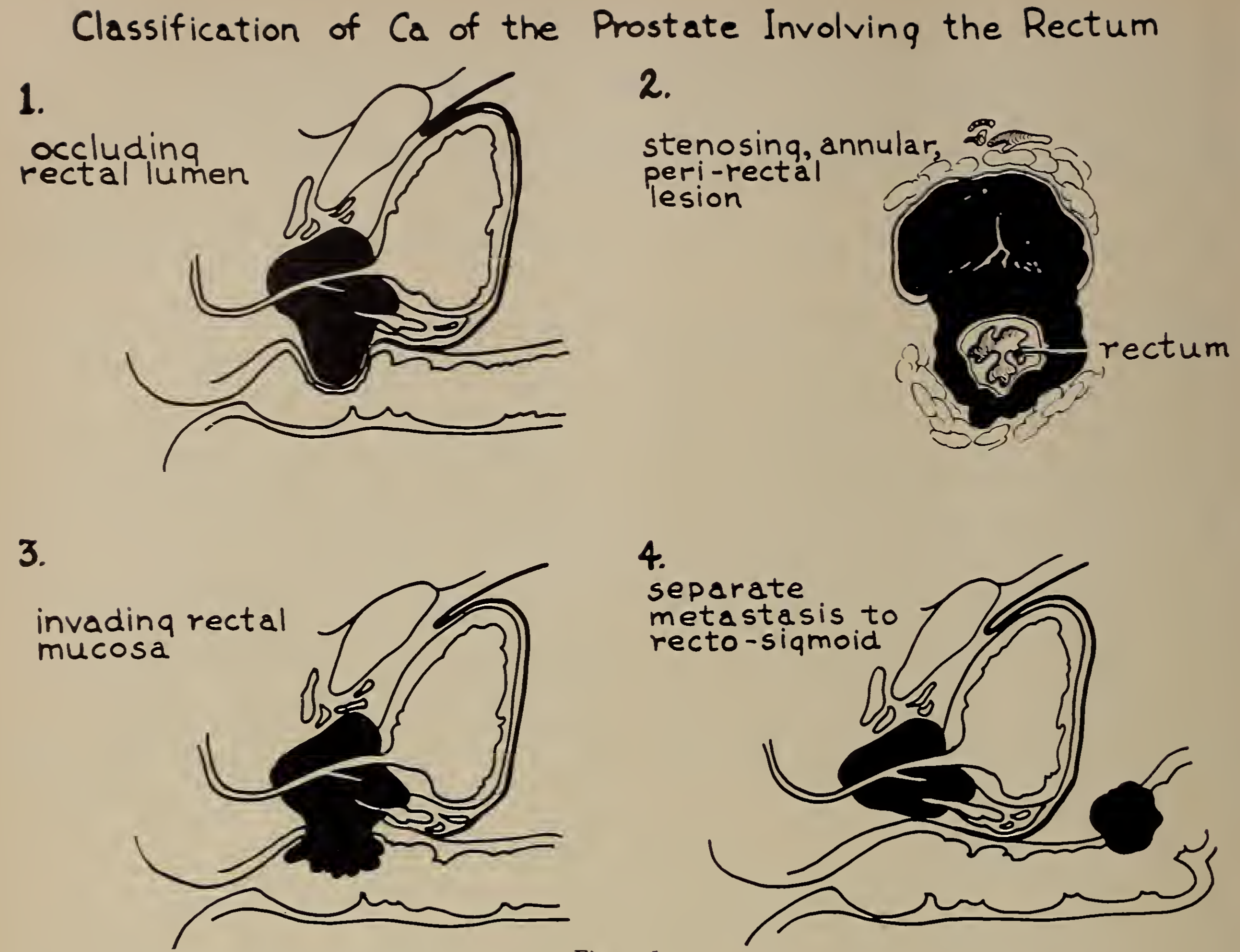
Classification of Ca of the Prostate Involving the Rectum
1.
occluding rectal lumen
2.
stenosing, annular, peri-rectal lesion
rectum
3.
invading rectal mucosa
4.
separate metastasis to recto-sigmoid

Figure 1.

METHODS OF MAKING DIAGNOSIS

The diagnosis of prostatic cancer should always be confirmed by adequate biopsy. Additional information may be obtained from determinations of serum phosphatase levels, from tissue assays for acid phosphatase activity, from cytological examination of the prostatic smear or urine sediment, from cystoscopy and sigmoidoscopy and from roentgenologic examination of the bones, lungs and occasionally the gastrointestinal tract.

Biopsy material may be obtained by a variety of methods which include transurethral resection, open perineal excision, open suprapubic operation, transrectal biopsy,[6] needle biopsy,[13] use of a Lowsley biopsy instrument and aspiration of bone marrow. No matter what method is used for the biopsy the emphasis is upon obtaining an adequate specimen and correct interpretation.

Serum acid phosphatase levels[28] may be abnormally elevated when prostatic cancer is invasive, usually in proportion to the extent of dissemination. An increase in acid phosphatase may also occur occasionally, however, after prostatic manipulation when malignant disease is not present, or in association with prostatitis, or when cancer originating elsewhere invades the prostate or adjacent structures. Laboratory error also is a possibility. The acid phosphatase levels may return to normal after metastatic carcinoma has been treated with estrogens and/or castration, and determining the content from time to time is thus an aid in evaluating the effectiveness of treatment. Recently Fishman and others[4] reported a new method for estimating serum acid phosphatase of "prostatic" origin in distinction from the older methods of estimating "total" body serum acid phosphatase. If confirmed by further clinical investigation, the sensitivity of this test may increase the value of acid phosphatase determinations in serologically diagnosing prostatic carcinoma.

Tissue assays[3] and special stains[5] with affinity for acid phosphatase in biopsied lesions will differentiate prostatic from other carcinomata in many instances. However, assays showing low content are more reliable as an indication of the absence of prostatic cancer than is a high assay as an indication that prostatic cancer is present.

Cytological study[21] of the prostatic secretion and urinary sediment may be helpful in diagnosing pros-

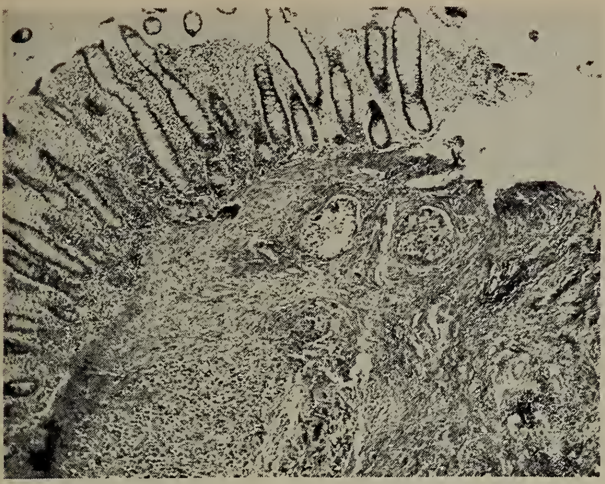

Figure 2.—Rectal biopsy (Case 1) showing normal rectal mucosa above and two nests of neoplastic cells in the middle (×80). Below are many tumor cells infiltrating from carcinoma of the prostate.

tatic cancer. The reliability of cytological interpretation varies with the experience of the interpreter.

Roentgenologic survey of the bones is of great value in diagnosing prostatic carcinoma that has metastasized but occasionally the roentgenologist is hard pressed to differentiate Paget's disease or other lesions of the bones. A diagnostic problem may be raised also if upper gastrointestinal roentgenograms may demonstrate a silent gastric tumor[24] that has produced a Blumer's rectal shelf. Roentgenograms of the colon may give helpful information in some circumstances.

The final diagnosis of prostatic neoplasm rests upon histologic examination of the biopsy specimen.

REPRESENTATIVE CASES

Case 1. A 61-year-old white male was admitted to the hospital in October 1953 with chief complaint of pain in the back. In addition he had symptoms of dyspnea on exertion and had lost eight pounds of weight in recent weeks. He had a histological diagnosis of prostatic carcinoma following transurethral resection in 1951 with subsequent estrogen treatment. There was no roentgenological evidence of bony metastasis, although the serum acid phosphatase was 1.8 Bodansky units (normal is below 1.2) and alkaline phosphatase 8.8 Bodansky units (normal is below 3.9). Sigmoidoscopic examination beyond 7 centimeters was blocked by a cauliflower-like annular lesion involving the rectal mucosa (Group 3). This was outlined by barium enema. Needle biopsy of the prostate was reported again as adenocarcinoma, while biopsy of the rectal lesion was interpreted as adenocarcinoma of undetermined origin (Figure 2). Consultants in urology felt that the rectal lesion was prostatic carcinoma and recommended treatment of it as such. However, a surgical tumor board recommended abdominal exploration and probable abdominal-perineal operation for possible carcinoma of the rectum. Upon exploration a fixed pelvic mass with metastases to regional lymph nodes and liver was observed and sigmoid colostomy was performed. Exploration for postoperative bowel obstruction was carried out a week later and the patient died six weeks later of postoperative complication. Permission for autopsy could not be obtained.

This case illustrates how a presenting rectal lesion may be misinterpreted, although a definite histological diagnosis of prostatic cancer was available.

Case 2. The patient, a 59-year-old white man, was admitted to the medical service of the hospital in July 1953 with complaint of lower abdominal cramps and scrotal swelling. Three months previously an inguinal node biopsy in another hospital revealed carcinoma of undetermined origin and deep irradiation to the pelvis was recommended. Results of intravenous urography, cystoscopy and upper gastrointestinal roentgen examination at that time were negative. Barium enema (Figure 3) showed an extrinsic defect in the rectosigmoid junction area and in three sigmoidoscopic examinations a constricting lesion was observed at the 15 centimeter level. The prostate felt nodular. No abnormality was noted in examination of a specimen taken by punch from the prostate, and serum acid phosphatase was within normal limits. The patient was transferred to the urological service in September 1953 where open perineal biopsy (Figure 3) of the prostate revealed adenocarcinoma. Castration was carried out and estrogen therapy was administered with satisfactory results.

Case 3. A 62-year-old Negro male was admitted to the hospital, June 1953, with complaint of left upper abdominal pain, relieved by eating. A small, irregular, hard mass was felt overlying the prostate and involving the rectal mucosa. Blood was observed on the glove used in rectal examination. Acute and chronic inflammatory changes were observed in biopsy of rectal tissue, and a second biopsy (Figure 3) was interpreted as adenocarcinoma of undetermined origin. Roentgenograms of the colon (Figure 3) showed a rectal lesion. In upper gastrointestinal roentgenograms a duodenal ulcer was noted. There were questionable osteoblastic metastatic bone lesions. Serum acid phosphatase was 40 units (normal 0 to 1.1 Shinowara units) and serum alkaline phosphatase, 10 units (normal 2 to 4.5 Shinowara units). Needle biopsy of the prostate showed primary adenocarcinoma. The patient declined castration and was treated with estrogen with good results.

This case is illustrative of the difficulty of differentiating prostatic from rectal carcinoma.

SUSPECTED CARCINOMA OF PROSTATE NOT INVOLVING RECTUM

The following case is not included in the series (Table 1) but illustrates the problem of obtaining histological evidence of carcinoma of the prostate.

Case 4. A 64-year-old white male was admitted to the orthopedic service of the hospital in February

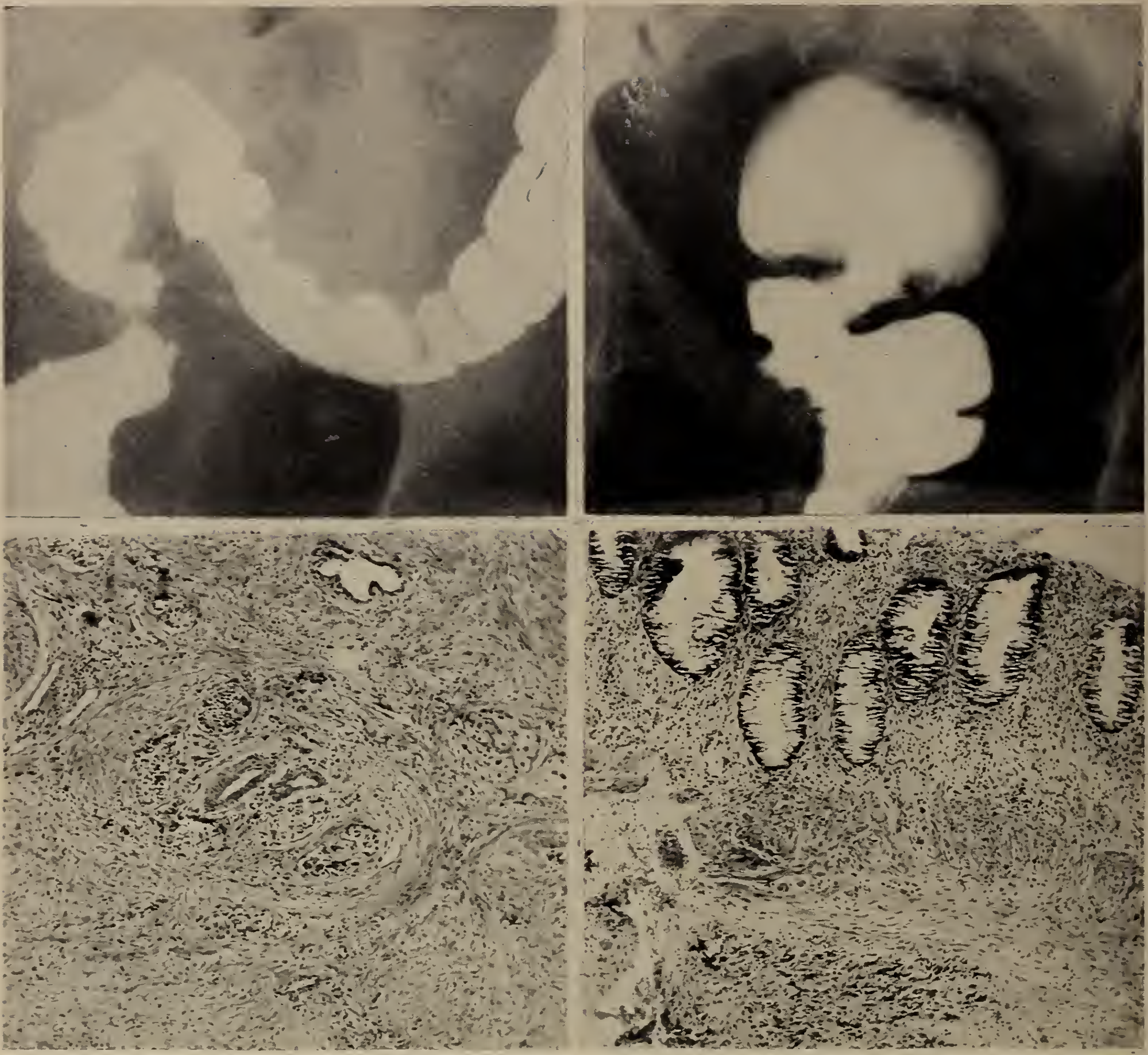

Figure 3—*Upper left* (Case 2)—Barium enema showing constricting rectal lesion from carcinoma of the prostate.

Lower left (Case 2)—Open perineal biopsy (×80) of prostate showing nests of prostatic carcinoma cells in lymphatic spaces near center. These surround two vessels.

Upper right (Case 3)—Barium enema shows rectal lesion produced by prostatic carcinoma.

Lower right (Case 3)—Rectal biopsy (×80) showing rectal mucosa above and neoplastic cells below in the muscular tissue having characteristics of adenocarcinoma.

1954 with chief complaint of low back pain that had been incapacitating for four months. There were no outstanding complaints referable to the genitourinary system, but upon rectal examination the prostate was noted to be enlarged, irregular, hard and fixed. The residual urine in the bladder was found to vary between 50 and 90 cc. Osteoblastic metastatic bone lesions of the pelvis and vertebrae were noted in roentgenograms. Serum acid phosphatase levels were normal on four occasions. Clinically this case was one of carcinoma of the prostate with bone metastasis. However, material removed from two sites by Silverman needle and tissue excised in extensive transurethral resection of the prostate revealed no carcinoma. Finally, a transrectal biopsy of the prostate showed definite adenocarcinoma present in the posterior palpable portion of the gland. The rectal wound healed without complication. Orchiectomy was carried out and estrogen therapy was administered. In this case transrectal biopsy of the prostate was found to be technically simple, the exposure excellent, and the operation one of short duration and without complication.

CARCINOMA OF URINARY BLADDER INVOLVING RECTUM AND SIMULATING CANCER OF PROSTATE OR RECTUM

The following case also was not included in Table 1 since it represents carcinoma of the urinary bladder simulating prostatic or rectal carcinoma, but it illustrates the diagnostic problem that arises. Four such cases were observed in a period of six months.

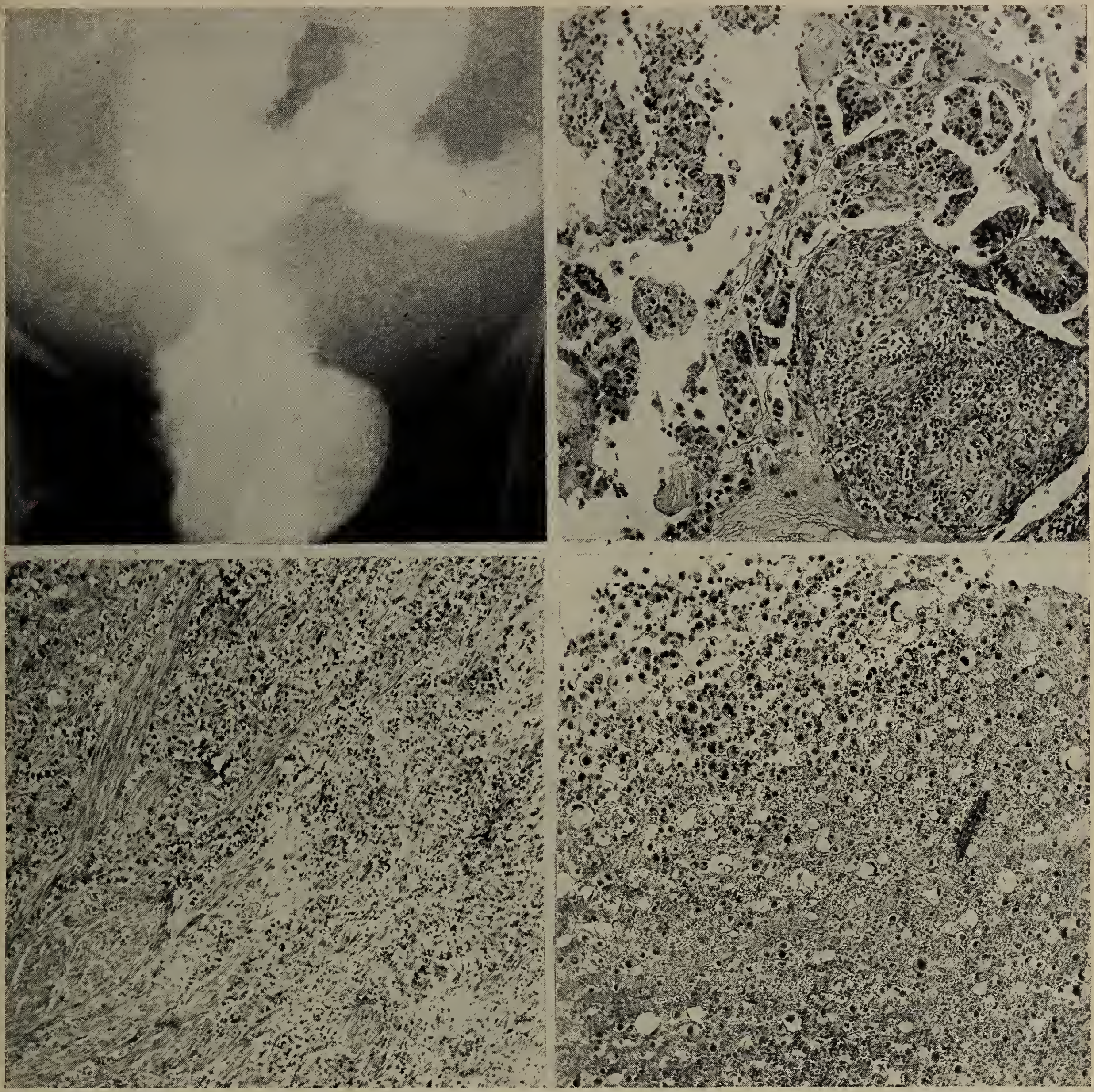

Figure 4—*Upper left* (Case 5)—Barium enema showing rectal lesion due to carcinoma of the urinary bladder.

Upper right—Bladder biopsy (×125) showing highly malignant epithelial tumor exhibiting signet cell simplex features.

Lower left—Needle biopsy (×80) of prostate showing infiltration with highly malignant tumor.

Lower right—Cellular pattern of the ascitic fluid showing many signet cells from bladder carcinoma (×250).

Case 5. A 69-year-old white man was admitted to the medical service of the hospital with chief complaints of lower abdominal discomfort, abdominal enlargement and decreased caliber of stools. The patient also had gross hematuria for two weeks before admission. Upon physical examination an abdominal fluid wave was noted and a large anterior rectal-pelvic mass simulating Blumer's shelf was palpated. Carcinoma of the prostate and carcinoma of the urinary bladder were considered the most likely diagnoses. Serum acid phosphatase levels were normal on two occasions and thrice normal on a third. There were no bone lesions. The rectal mass impeded sigmoidoscopy and was outlined by barium (Figure 4). Neoplasm was not seen in biopsy of the rectal mucosa or in tissue taken by Silverman needle from the prostate. Upper gastrointestinal roentgenograms and gallbladder series were normal. Cystoscopy revealed marked infiltration of the mucosa of the floor with multiple papillary tumors. The bladder biopsy as reported by the pathologist was: ". . . highly malignant epithelial tumor exhibiting signet cell simplex features (mucin secreting) (Figure 4). This unusual neoplasm, if derived from bladder or adjacent structures, certainly represents an unique primary neoplasm. It is, however, quite possible. One must rule out extension of neoplasia from the gastrointestinal tract." A repeat prostatic needle biopsy (Figure 4) as well as examination of ascitic fluid (Figure 4) revealed similar neoplastic cells. The patient expired January 1954 and autopsy revealed primary bladder tumor with no gastrointestinal lesions other than metastasis to the rectum.

TREATMENT

Once carcinoma involving the rectum has been diagnosed as prostatic in origin, appropriate treatment should begin. It is incurable in advanced state and palliation is brought about by a combination of medical and surgical therapy. Radical pelvic operation does not seem indicated, nor does colostomy appear in order for rectal obstruction. The combination of castration and estrogen therapy[9, 19] is most effective.

Recent experimental studies[2, 22] suggest other forms of palliation: injection of radioactive isotopes,[14, 18] total adrenalectomy,[10, 27] cortisone to produce medical adrenalectomy,[26] hypophysectomy[17, 25] and/or hypophyseal irradiation[19] and intravenous conjugated estrogens.[23] These methods have yet to be adequately evaluated in the treatment of prostatic carcinoma.

REFERENCES

1. Arnheim, F. K.: Carcinoma of the prostate; study of postmortem findings in 176 cases, J. Urol., 60:599-603, Oct. 1948.

2. Brendler, H.: Evaluation of current treatment of prostatic cancer, J. Urol., 68:734-743, Oct. 1952.

3. Dean, A. L., and Woodard, H. Q.: The differential diagnosis of tumors of the prostate and adjoining areas of the rectum and bladder by chemical analysis, Tr. Am. A. Genito-Urin. Surgeons (1946), 38:209-212, 1947.

4. Fishman, W. H., Dart, R. M., Bonner, C. D., Leadbetter, W. F., Lerner, F., and Homburger, F.: A new method for estimating serum acid phosphatase of prostatic origin applied to the clinical investigation of cancer of the prostate, J. Clin. Invest., 32:1034-1044, Oct. 1953.

5. Gomori, G.: Distribution of acid phosphatase in the tissues under normal and pathological conditions, Arch. Path., 32:189-199, Aug., 1941.

6. Grabstald, H., and Elliott, J. L.: Transrectal biopsy of the prostate, J.A.M.A., 153:563-565, Oct. 1953.

7. Graves, R. C., and Militzer, R. E.: Carcinoma of the prostate with metastases, J. Urol., 33:235-251, March 1935.

8. Hock, E., and Tessier, R. N.: Elevation of serum acid phosphatase following prostatic massage, J. Urol., 62:488-491, Oct. 1949.

9. Huggins, C.: Prostatic cancer treated by orchiectomy; the five-year results, J.A.M.A., 131:576-581, June 1946.

10. Huggins, C., and Bergenstal, D. M.: Inhibition of human mammary and prostatic cancers by adrenalectomy, Cancer Res., 12:134-141, Feb. 1952.

11. Huggins, C., and Johnson, M. A.: Cancer of the bladder and prostate, J.A.M.A., 135:1146-1152, Dec. 1947.

12. Jackson, R. J., and Anderson, J. R.: Proctologic manifestations of carcinoma of the prostate, Am. J. Surg., 83:491-495, April 1952.

13. Kaufman, J. J., Rosenthal, M., and Goodwin, W. E.: Methods of diagnosis of carcinoma of the prostate: a comparison of clinical impression, Papanicolaou stains, needle biopsy, transurethral biopsy and open perineal biopsy, J. Urol., to be published.

14. Kerr, H. D., Flocks, R. H., Elkins, H. B., and Culp, D.: The treatment of moderately advanced carcinoma of the prostate with radioactive gold, Am. J. Roent. and Rad. Ther., 69:969-977, June 1953.

15. Kickham, C. J. E.: Diagnostic pitfalls in carcinoma of the prostate, J. Urol., 45:92-101, Jan. 1941.

16. Lazarus, J. A.: Complete rectal occlusion necessitating colostomy due to carcinoma of the prostate, Am. J. Surg., 30:502-505, Dec. 1935.

17. Luft, R., and Olivecrona, H.: Experiences with hypophysectomy in man, J. Neurosurg., 10:301-316, May 1953.

18. Moore, E. V., Jr.: Radioactive chromic phosphate in the treatment of urological tumors, J. Urol., to be published. Personal communication.

19. Murphy, W. T., and Schwippert, H.: Pituitary irradiation in prostatic carcinoma, Radiology, 56:376-383, March 1951.

20. Nesbit, R. M., and Baum, W. C.: Endocrine control of prostatic carcinoma, J.A.M.A., 143:1317-1320, Aug. 1950.

21. Peters, H., and Young, J. D.: Prostatic smear in cancer diagnosis, J.A.M.A., 145:556-557, Feb. 1951.

22. Presti, J. C.: Carcinoma of the prostate; diagnosis and treatment, Calif. Med., 78:440-443, May 1953.

23. Raabe, S.: Die Bedeutung der menschlichen Phosphatasen für Chirurgie and Urologie. Langenbecks Arch. f. klin. Chir., 273:373-387, 1952-3.

24. Scheid, J. E., and Crile, G., Jr.: Metastasis of carcinoma of stomach to submucosa of rectum, Am. J. Surg., 83:827-829, June 1952.

25. Scott, W. W.: Endocrine management of disseminated prostatic cancer, including bilateral adrenalectomy and hypophysectomy, Trans. Am. Assoc. GU Surg., 44:101-104, 1952.

26. Valk, W. L., and Owens, R. H.: Effect of cortisone on patients with carcinoma of prostate, J. Urol., 71:219-225, Feb. 1954.

27. West, C. D., Hollander, V. P., Whitmore, W. F., Jr., Randall, H. T., and Pearson, O. H.: The effect of bilateral adrenalectomy upon neoplastic disease in man, Cancer, 5:1009-1018, Sept. 1952.

28. Woodard, H. Q.: Factors leading to elevations in serum acid glycerophosphatase, Cancer, 5:236-241, March 1952.

29. Young, H. H.: The cure of cancer of the prostate by radical perineal prostatectomy (prostatoseminal vesiculectomy); history, literature and statistics of Young's operation, J. Urol., 53:188-252, Jan. 1945.

Cholinesterase Inhibiting Insecticides (Parathion)

Chemical and Clinical Aspects

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• *Since parathion and other cholinesterase insecticides are being used extensively, safety precautions are important, and the need for prompt and adequate therapy if poisoning does occur must be emphasized.*

This paper stresses the acute nature of the poisoning and attempts to outline the basic principles of therapy so that practicing physicians may handle cases with more confidence, which should help prevent prolonged periods of functional disturbances due to anxiety following poisoning.

THE GROUP OF PHOSPHATE ESTERS which are cholinesterase inhibiting agents was discovered in the Cambridge laboratories of Sir Henry Dale in 1941. The original anticholinesterase substances were primarily only of pharmacologic interest. However, during World War II German chemists working to develop a "nerve gas" discovered several new substances of the "organic phosphate" series which were very active cholinesterase inhibitors and extremely toxic to man. The formulae of these substances were discovered by a team of chemists investigating captured chemical data. The first, HETP (hexaethyltetraphosphate) which broke down into the active substance TEPP (tetraethylpyrophosphate), was found to be effective for agricultural use but was too unstable to be practical. Finally, parathion (O, O, P-nitrophenylthiophosphate) was discovered to be both effective and stable.

These substances possess important qualities not found in other insecticides. When they are applied to the plant in the form of dust or water-soluble spray (in a dilution of .02 to .08 per cent), the active substance (parathion) is hydrolized and absorbed into the plant, so that insects are actually poisoned by eating the leaves or juices of the plant and not necessarily by contact or incidental ingestion of surface chemicals. These substances remain in the plant tissues for a variable length of time. Tracer studies with radioactive phosphorus (P^{32}) by Hartley and Heath[13] show that all but 10 per cent of the absorbed parathion is usually decomposed in living plants after four weeks. However, the rate of decomposition depends on the species, the rate of growth, the air temperature and the part of the plant studied.

Experiments by Payton[16] and Aldridge[2] in vitro revealed that chemically pure parathion has very little, if any, anticholinesterase activity, but that after ultraviolet exposure or hydrolysis it becomes an active anticholinesterase. Myers and Mendel[15] observed that it is extremely difficult to test the toxicity of these substances because impurities or decomposition products in vivo may produce substrates that are many times more toxic than the original chemical.

These studies lead to conjecture that pure parathion may not be toxic, but may become an anticholinesterase agent after absorption and reaction brought about by various enzyme systems, both in plants and animals. It is this observation that leads chemists to believe that a new and safer insecticide of this series may be discovered. Such a substance might be transformed into a toxic substrate by enzyme systems found in insects but not in warm-blooded animals. Thus insects would produce their own poison from a harmless precursor substance. Such a substance obviously is not yet known.

According to Wong[21] there are four enzymes which may be affected by anticholinesterase: true cholinesterase, pseudo-cholinesterase, ali-esterase and lipase. Since these four enzymes may be affected by the anticholinesterase; and since the degree of activity depends more upon hydrolysis and products than on the pure chemical; and since the nature of the hydrolysis end products is not yet known; and since the hydrolysis end products act on one or all the known anticholinesterase enzymes, probably at different rates of speed, the complexity of the problem becomes obvious. This complexity is magnified by the fact that the hydrolytic products may be 40 or 50 times more toxic than the original substance. Consequently, a trace of such substances would cause wide variation in results.

CLINICAL FEATURES

For simplicity let it be assumed that parathion acts directly on cholinesterase and that this in turn allows toxic quantities of acetylcholine to collect in

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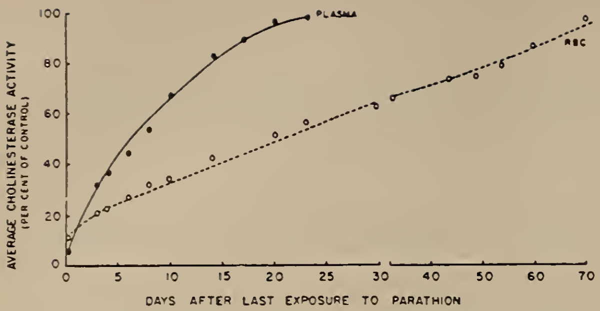

Chart 1.—Recovery of plasma and erythrocyte cholinesterase activity after cessation of exposure to parathion—average values obtained in 18 subjects. (From Grob, Garlick and Harvey.)

the tissues and produce symptoms of acetylcholine or mecholyl poisoning. These symptoms may be classified into three groups:

1. *Muscarine-like effects:* The acetylcholine effect on postganglionic cholinergic nerves is characteristic of muscarine poisoning. This group of symptoms is first to appear and is heralded by anorexia and nausea, soon followed by abdominal cramps, vomiting, sweating, salivation and pupillary constriction. As the poisoning becomes more intense tenesmus and diarrhea appear, sometimes associated with involuntary defecation and urination. Pinpoint nonreactive pupils, blurred vision, respiratory distress and excessive bronchial secretions ensue, followed by pulmonary edema and cyanosis. Elevation of blood pressure is frequently noted in severe parathion poisoning. Gastrointestinal symptoms may be more prominent when the poison is ingested or absorbed through the skin, and the respiratory symptoms more severe when the poison is inhaled.

2. *Nicotine-like effects:* The preganglionic and somatic motor nervous systems are affected in such a way as to simulate nicotine poisoning. This is characterized by fasciculation of the muscles, first of the iris and tongue, later of the face, neck and extraocular group, and finally by generalized muscular fasciculations and weakness. In severe cases the weakness may involve the muscles or respiration.

3. *Central nervous system effect:* Restlessness, anxiety, tremor, ataxia, dizziness, sleepiness, paresthesias, mental confusion, disorientation, excessive dreaming, coma and generalized convulsions occur as the result of central nervous system poisoning.

Any person or groups of persons who are working with insect sprays or "nerve gas" and who have these symptoms should be considered to be suffering from acetylcholine poisoning until proved otherwise. Verification of the diagnosis may be made by taking blood tests for cholinesterase activity. Such tests, which are done by commercial or state laboratories in most regions of the country, are of utmost importance in the diagnosis of subclinical cases and in the observation of employees known to be working in the presence of parathion. However, in persons with symptoms suggestive of parathion poisoning, treatment should be instituted at once without waiting for the confirmatory laboratory tests.

Chart 1 (after Grob, Garlick and Harvey) shows the average cholinesterase activity in 18 normal persons after parathion intoxication. From this group it is apparent that the plasma level returns to normal after about 15 to 20 days, and erythrocyte level in 60 or 70 days. This is said to be due to the formation of new cholinesterase within the body and does not indicate the detoxification of poisoned cholinesterase.

Poisoning with parathion is, as a rule, acute although exposure of a person to small doses over a long period of time may bring about a pronounced decrease in cholinesterase which in turn reduces the tolerance for parathion so that acute parathion poisoning may develop with a relatively small amount of the poison. This could be prevented by periodic blood cholinesterase tests on persons working with parathion.

In addition to actual acetylcholine poisoning, the possibility of aggravating some disease which is known to be in some way related to increased parasympathetic activities, must be considered. Such diseases include bronchial asthma, Parkinsonism, duodenal ulcer and ulcerative colitis.[20]

TREATMENT

The treatment of parathion poisoning is simple but should be carried out promptly and the patient should be kept under continuous observation until he is out of danger.[22] Atropine is the lifesaving antidote, and it should be administered at once, without delay for transporting the patient to a hospital. An initial dose of 2 mg. should be administered hypodermically, and that amount should be repeated at short intervals until dryness of the mouth and symptoms of myosis are produced. Also of immediate importance is the removal from the skin, hair and stomach all clothing and foreign substances that might contain parathion. It is important to bear in mind that since parathion is absorbed through the skin, physicians and others dealing with a patient must take care in the removal of contaminated clothing lest they also become poisoned. The "cleaning up" procedure would best be carried out in the open, so that rooms, beds, ambulances and other equipment will not become contaminated. In addition to the two primary therapeutic measures of administration of atropine and removal of the patient from further contact with parathion, artificial respiration may be necessary in cases of respiratory paralysis, and various forms of symptomatic treatment may be indicated in individual cases. Hamblin[10] pointed out that a readily accessible supply of atropine with the proper directions for emergency use is just as important for the safety of persons handling phosphate esters as a fire extinguisher on a boat is for the safety of the crew.

The use of magnesium sulfate intravenously has been suggested to counteract muscular excitability (nicotine effect). However, it was pointed out by Hanzlik[12] that in the event of parathion poisoning in which atropine did not arrest muscular excitability, the poisoning would be so profound that large, nearly toxic doses of magnesium would be required and that the risk of cardiac failure or of respiratory failure due to magnesium might contraindicate its use. Neither blood transfusion nor the administration of concentrated cholinesterase has proved effective in the treatment of parathion poisoning. As was pointed out by Hamblin,[10, 11] the molecular weight of cholinesterase is approximately 400,000 and that of parathion is 323. Consequently it would require 1.2 grams of cholinesterase to neutralize each milligram of parathion. General supportive measures, such as postural drainage in the case of excessive mucus in the bronchi and oxygen therapy in cases of cyanosis are indicated.

Specific precautions should be taken to discourage prophylactic use of atropine, as it is obvious that anyone taking atropine before risking exposure to parathion may thereby deprive himself of the warning symptoms which might otherwise permit the timely application of therapeutic measures.

The duration of acute parathion poisoning is from two to four days, and (as noted in Chart 1) after a period of 30 to 60 days the bodily stores of cholinesterase will have been completely replaced and the patient will consequently be completely recovered from poisoning without residual effect.

It should be stressed that physicians should deal calmly and in reassuring manner with patients who have parathion poisoning. Due to the effect of this drug on the nervous system, patients become suggestible. In one of the cases observed by the author, the first physician to treat the patient was said to have thrown up his hands and said, "You have been severely poisoned; I don't know what to do for you." Such uncertainty and indication of serious poisoning magnifies fear in an already terrified patient and conjures visions of poisoning with permanent residual disability. In these circumstances the patient is likely to become neurotic and may develop functional symptoms which persist for months or years. Symptoms of this kind are frequently nurtured by well-meaning legal advisors. Following are reports of four cases in point.

REPORT OF FOUR CASES

CASE 1. The patient was one of a group of 20 men poisoned with parathion in a pear orchard (the incident was reported by Abrams[1] in 1950). All the men were promptly and adequately treated with atropine and all but one recovered within four days without residual effect. The one who had continuing effect, the patient in the present case, was Mexican who did not understand English well. He was first observed by the author ten weeks after the exposure to parathion, and at that time said he felt weak and tired and had constant frontal headache and recurrent epigastric distress. On physical examination tenderness was noted in the upper midabdomen. The liver was normal in size, and there was no abnormality in the reflexes or in the reaction of the pupils. Pronounced cardiospasm, pylorospasm and spasticity of the colon were noted in roentgen studies. The patient had not returned to work and was not exposed again. The blood level of cholinesterase was normal. The patient had a poor work history; in fact, the day that he was poisoned was his first day at work for several weeks. It was concluded that the symptoms were due to a functional disturbance of the gastrointestinal tract and that it was doubtful that cardiospasm, pylorospasm and spasticity of the colon were related to exposure to parathion. However, it is conceivable that such functional conditions could have been aggravated for a short time following exposure to parathion.

CASE 2. The patient complained of various and bizarre symptoms over the preceding two years and volunteered the information that sprays, particularly parathion, caused the pupils of his eyes to become small, and that he occasionally felt dizzy. He was mechanic and repairman on airplane spray rigs, which involved welding metals that had been contaminated by sprays. The patient said that "potent vapors" arose from the heated metals. His chest, he said, felt "choked up" and, in view of this symptom he had discontinued working for the past two months without relief. Upon examination, bronchial asthma with 4 per cent eosinophilia was noted. Cholinesterase activity in both the plasma and the erythrocytes was within normal limits. The patient was anxious and introspective about his health and was fearful of having been fatally poisoned. That he had allergic sensitivity to some substance in the sprays is possible, and it is conceivable that he had some mild symptoms of parathion intoxication from time to time. In view of the continued symptoms even after two months away from work and the fact that the blood cholinesterase was normal, it was concluded that the chief difficulty was bronchial asthma and that parathion played no part in the symptoms noted at the time of examination. Reassurance that all ill effects of parathion were gone greatly relieved the patient's anxiety and symptoms.

CASE 3. The patient was first observed by the author seven months after an acute illness that was characteristic of moderately severe parathion poisoning. At the time of that illness he was employed as a marker to put down flags in a cotton field that was being dusted from the air with a powder containing parathion. He noted general "nervous trem-

TABLE 1.—*Reported deaths due to parathion*

Case	Source	Occupation	Exposure	Comments
1.	American Cyanamid Co. circular letter May 12, 1949	Foreman in spray manufacturing plant	Splashed 95% parathion on arms at 3 a.m. Cleansing not properly carried out.	Fellow worker similarly exposed but who carried out cleansing promptly was not ill. Patient's symptoms started at 11 a.m. He first saw a doctor at 6:30 p.m. and died at 12:20 a.m. Treatment probably not adequate.
2.	Abrams—1950 American Cyanamid Co. Communication 1949	Employed by Agricultural Experiment Station	Sprayed for several hours in clothes soaked in weak parathion solution	Patient disregarded safety precautions and did not attempt to decontaminate self after known exposure. He did not see a doctor.
3.	Grob & Garlick 1949	Chemical plant worker	Mixing liquid parathion and dust to make "wettable mixture"	Inadequate protection. Death 10 hours after onset of symptoms. Autopsy showed general hyperemia and "pressure cone" at base of brain which may been the terminal cause of respiratory failure.
4.	Hamblin 1951 Case No. 1	Farm worker—illiterate; had not been properly cautioned	Walked behind mule-drawn sprayer and was soaked by spray	Patient was unaware of necessary precautions, so none was taken. No treatment.
5.	Hamblin 1951 Case No. 2	Filled citrus sprayer tanks	Skin wet by diluted spray. Had previously been poisoned 25 days prior to fatal accident.	Onset symptoms 10:30 a.m. Death 5:30 p.m. He did not take proper precautions.
6.	Johnston 1953	Child, age 9 months	Played with DDT parathion paste found in farm house. Found on skin and in mouth.	Patient was washed but not adequately decontaminated. Exposed at noon and symptoms did not appear until 5:30 p.m., at which time doctor was first called. Dead at 8 p.m.

ors," nausea, vomiting and severe "stomach cramps." He was admitted to hospital but a day passed before specific medication was begun. Atropine then was given for a period of two weeks. The patient said that the physician who treated him at the time said, "You have been severely poisoned; I don't know what to do for you." The patient was apprehensive and seemed certain that some irreparable damage had been done. He said that after recovery from the acute episode he felt weak and tired, had palpitation of the heart and epigastric distress, and became so fatigued that he could not return to work.

Upon physical examination upper midabdominal tenderness was noted and roentgen studies revealed a duodenal ulcer, but there were no other abnormal objective findings. Results of blood cholinesterase studies were normal. It was concluded that the patient had had a mild degree of parathion poisoning which was complicated by duodenal ulcer. That the ulcer occurred at the time of exposure to parathion was considered a possibility, but it was believed that once the original ulcer was healed, there should be no further residual organic effect from the exposure to parathion.

CASE 4. The patient was examined because of complaint of constant shortness of breath and pain in the chest and of cough and palpitation, which he said had begun some three months earlier when he was exposed to inhalation and dermal absorption of parathion while pulling a sprayer in which a water-soluble dust was mixed with water and was sprayed upon fruit trees.

Upon examination, a hiatal hernia, pylorospasm, and arteriosclerotic heart disease with bundle branch block were noted.

As there was a certain degree of functional overlay, the history was difficult to evaluate. The patient suggested that he was so short of breath that he could not walk one block to a streetcar from the hospital, yet the following day he asked permission to leave the hospital to go deer hunting.

It is probable that the patient had had mild parathion poisoning, but it is unlikely that the other demonstrable organic disease processes were affected by the exposure to parathion. It cannot be said with certainty, however, that the patient did or did not have coronary occlusion at the time of exposure.

PREVENTION

The manufacture and sale of parathion is carefully controlled by the American Cyanamid Company. The substance is sold only to special commercial jobbers, who are required to follow strict safety rules, and who require farmers who buy to follow strict precautions. If workmen follow the rules carefully, they will be in no more danger using parathion than any other insecticide. As a further precaution, it is wise to take periodic blood cholinesterase determinations to detect subclinical poisoning which may have resulted in some undetected breakdown in discipline.

Despite its great toxicity, there have been only six deaths reportedly due to parathion. Table 1 summarizes the six cases. (Not included are deaths of airplane pilots who have died as a result of crashes during the use of parathion. Such deaths may have been due to myosis or nervous changes brought about by exposure to parathion.)

There have undoubtedly been innumerable cases of mild and severe poisoning in which the patients recovered. It is noteworthy that all deaths listed in Table 1 occurred as a result of carelessness—either disregard of known rules and warnings, or insufficient instruction. Parathion poisoning is less frequent now than it was five years ago when proper treatment was not so well known and agricultural workers tended to hold warnings of toxicity in contempt. Now that the toxicity of parathion is appreciated, farm workers handle it with more respect.

OTHER ASPECTS OF PARATHION

In a review of the literature some interesting collateral observations with regard to parathion were noted. Grob[7] discussed the use of parathion in relationship to the diagnosis and treatment of myasthenia gravis. Annis[3] pointed out interesting electrolyte changes which occurred during the acute stage of one case of parathion poisoning. These changes include a reversal of the calcium phosphorus ratio in the blood, a marked increase in blood potassium level, and a marked decrease in the serum pH. These findings were observed in only one case and are admittedly meager observations, but may stimulate further observation of blood chemistry in acute parathion poisoning.

Sherwood[19] suggested that acetylcholine may be a factor in certain psychotic syndromes. He pointed out that acetylcholine aggravates Parkinsonism, as opposed to atropine which relieves these symptoms. In experimental work with cats he found that catatonic states were aggravated by intraventricular injections of acetylcholine, and that cholinesterase caused a temporary remission. He observed that certain anticholinesterase substances, (di-isofleurophosphonate) will, in toxic doses, cause a syndrome resembling schizophrenia, and will aggravate known schizophrenic symptoms. This may indicate another possible toxic reaction to parathion as yet unreported.

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REFERENCES

1. Abrams, H. K., and Leonard, A. R.: Toxicology of organic phosphate insecticides, Calif. Med., 73:183-186, Aug. 1950.
2. Aldridge, W. N., and Barnes, J. M.: Some problems in assessing the toxicity of the organophosphorus insecticides towards mammals, Nature, 169:345-347, March 1, 1952.
3. Annis, J. W., and Williams, J. W.: Change in electrolytes in a case of parathion poisoning, J.A.M.A., 152:594-596, June 13, 1953.
4. David, W. A. L., and Kilby, B. A.: Preparation and insecticidal action of bisdiacetylamino bis (bis-dimethylamino) phosphonous anhydride, Nature, 164:522-523, Sept. 24, 1949.
5. Decker, G. C.: Toxic hazards of pesticides to man, Nature, 172:1125-1127, Dec. 19, 1953.
6. Grob, D., Garlick, W. L., Merrill, C. C., and Freimuth, H. C.: Death due to parathion, an anticholinesterase insecticide, Ann. Int. Med., 31:899-904, Nov. 1949.
7. Grob, D., and Harvey, A. M.: The effect of tetraethylpyrophosphate in myasthenia gravis, Bull. J. Hopkins Hosp., 81:217-292, 1949.
8. Hamblin, D. O.: American Cyanamid Co. circular letter of May 12, 1949. From the Medical Director's office.
9. Hamblin, D. O., and Golz, H. H.: Cholinesterase tests and their applicability in the field, Am. Cyanamid Co. publications, Second Edition, Sept. 1953.
10. Hamblin, D. O., and Marchand, J. F.: Parathion poisoning, Am. Pract. and Dig. of Treatment, 2:1-12, Jan. 1951.
11. Hamblin, D. O., and Marchand, J. F.: Phosphate ester poisoning, a new problem for the internist, Ann. Int. Med., 36:50-55, Jan. 1952.
12. Hanzlik, P. J.: Undesirable use of magnesium intravenously in parathion poisoning, Calif. Med., 71:371-372, Nov. 1949.
13. Hartley, G. S., and Heath, D. F.: Decomposition of radioactive octamethylpyrophosphoramide in living plants, Nature, 167, May 19, 1951.
14. Johnston, J. M.: Parathion poisoning in children, J. Ped., 42:286-291, March 1953.
15. Myers, D. K., Mendel, B., Gersmann, H. R., and Ketelaar, J. A. A.: Oxidation of thiophosphate insecticides in the rat, Nature, 170:805-807, Nov. 8, 1952.
16. Payton, J.: Parathion and ultraviolet light, Nature, 171:355-356, Feb. 21, 1953.
17. Rohwer, S. A., and Haller, H. L.: Pharmacology and toxicology of certain organic phosphorus insecticides, J.A.M.A., 144:104-108, Sept. 9, 1950.
18. Schrader, G.: Organophosphate compound with strong insecticidal properties, British Intelligence Objective Subcommittee Report No. 1714, London, 1948.
19. Sherwood, S. L., Ridley, E., and McCulloch, W. S.: Effects of intraventricular acetylcholine, cholinesterase and related compounds in normal and catatonic cats, Nature, 169, Jan. 26, 1952.
20. Wener, J., Hoff, H. E., and Simon, M. A.: Production of ulcerative colitis in dogs by the prolonged administration of mecholyl, Gastroenterology, 12:637-647, April 1949.
21. Wong, E.: Ali-esterase of rabbit polymorphonuclear leukocyte, Nature, 168:80-81, July 14, 1951.
22. Wood, J. R., Dickens, P. F. Jr., Rizzolo, J., and Bayliss, M. W.: Treatment of nerve-gas casualties, U. S. Armed Forces M. J., 2:1609-1617, Nov. 1951.

Shigella Infections

Observations on Recognition and Management

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• In review of 117 cases of Shigella enteritis observed in the isolation division of the San Francisco Hospital, it was noted that the most common symptoms were high fever, liquid and bloody stools, prostration, irritability and meningismus. The use of antibiotics did not significantly affect the course of the acute illness but resulted in earlier elimination of the Shigella organisms from the bowel. "Carriers" were found to be particularly resistant to antibiotic therapy.

The disease is self-limited. In 30 cases the patients recovered with only symptomatic treatment. Management of fluid and electrolyte balance was often an important factor in supportive therapy.

DIARRHEA is one of the most common complaints in pediatric practice. There are, etiologically, many kinds, among them metabolic diarrhea, parenteral diarrhea, the nonspecific epidemic diarrhea and vomiting generally thought to be due to a viral infection, and, finally, enteric infections due to specific organisms and parasites such as Shigella, Salmonella and Endameba.

Shigella infections typically are characterized by a sudden onset of high fever, explosive diarrhea with liquid foul-smelling stools containing blood, pus and mucus, and pronounced prostration and irritability. Meningismus is also a common feature. Fever and symptoms of toxicity frequently precede the onset of liquid stools by several hours. Abdominal cramps and tenesmus, which are the most common symptoms in adults, are less frequently noted in children. Prostration is usually out of proportion to the amount of diarrhea and degree of dehydration. Multiple cases in a family should arouse suspicion of a specific enteric infection.

A very useful adjunct in diagnosis is examination of the liquid stool under the microscope. The presence of large numbers of erythrocytes and leukocytes is suggestive of Shigella infection. Definitive diagnosis is made by cultures of the liquid stool or by culture of material swabbed from the rectal mucosa. Explosive diarrhea and acute illness do not occur in all cases of Shigella enteritis. In a small number the symptoms are milder. It was noted by the author that recurrence or reinfection was less often accompanied by severe toxicity and high fever than the initial infection. Routine cultures of specimens taken from persons in the same household as a patient are likely to reveal a number of carriers of the organism.

Shigella dysentery is generally considered to be an epidemic disease, particularly likely to occur during war or famine and in crowded institutions and orphanages. However, in addition it is often found to occur endemically in the more crowded areas and to infect family groups. Felsen[2, 3] recently stressed the high incidence of Shigella infections. An impressive number of cases have been observed in recent years in the emergency room and the out-patient clinic of the San Francisco Hospital.

Although the diagnosis can readily be made clinically, the proof rests with the demonstration of the organism on stool culture. Thus, the reported incidence of the disease depends to a very great degree on how many cultures are taken. In the author's experience the reported incidence always rose considerably when the house staff's index of suspicion was high.

For the 12 months ended June 30, 1950, 1,005 cases of Shigella dysentery were reported in California, with 24 deaths. This compared with 413 cases of Salmonella infection and 325 cases of amebiasis for the same period. In the 12 months to June 30, 1951, 585 cases of Shigella dysentery were reported, with 14 deaths; and in the same period there were 476 cases of Salmonella infection and 377 cases of amebiasis.

There is little doubt that the true incidence of Shigella enteritis is considerably higher. In some instances the diagnosis is not suspected; more frequently, although it is suspected and the patient treated, no cultures are taken and the diagnosis is not made definitively. Since this is a communicable disease, particularly within family units, it is important that it be diagnosed and managed in such a way as to minimize the spread of pathogens within the family unit and within the community.

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The terramycin and polymyxin used in the cases reported upon were supplied by Chas. E. Pfizer Company of Brooklyn, N. Y.

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TABLE 1.—*Symptoms of 95 acute cases at the time of admission to hospital*

	No. of Cases	Per Cent
Fever over 100° F. rectally	88	84
Fever over 104° F. rectally	40	38
Liquid stool	91	86
Bloody stool	44	42
Pronounced lethargy	46	44
Pronounced irritability	23	22
Meningismus	28	27
Moderate to severe dehydration	57	54

The purpose of this presentation is to call attention to the considerable incidence of Shigella enteritis in endemic form, and to make several observations concerning recognition and management. To this end, the records of the isolation ward of San Francisco Hospital between August 1950 and August 1953 were reviewed.

REVIEW OF CASES

One hundred seventeen patients with Shigella enteritis were admitted during the three years. Ninety-five of them were acutely ill and 22 were carriers. Seventy-eight of the cases were caused by Shigella sonnei, 23 by Shigella of the Flexner type, and 17 by other Shigella organisms, among which were Shigella alkalescens, Shigella dispar and Shigella boydii. It is interesting that not a single case of Shigella dysenteriae was encountered. There was no statistical relationship between the kind of organism and the severity of disease. Only four of the 117 patients were adults, two of whom were student nurses who were exposed to infection on the ward. Of the 113 children, 95 were between the ages of one and five years; seven were between three months and one year; the rest were between five and 15 years. A factor in this age distribution probably was that the criteria used for hospital admission were severe diarrhea with dehydration, or the presence of severe toxicity. Dehydration tended to be more pronounced in the younger age group. Many additional patients observed in the emergency room and out-patient clinic were thought, on the basis of clinical symptoms, to have Shigella infection but were considered not sick enough to require hospitalization.

Symptoms in the 95 acute cases at the time the patient was admitted are listed in Table 1. Fever, liquid and bloody stools, pronounced lethargy and irritability were the most common. Meningismus was present in 26 per cent of the cases and in half it was so pronounced that lumbar puncture was done upon admission. The number of stools per day was quite variable and, in the author's opinion, the most unreliable feature in the history. There was very little correlation between the number of stools (as reported by the mother) and the presence of severe dehydration. There was one death in the series: a severely dehydrated child died 20 minutes after admission.

Many different kinds of therapeutic regimen were used. The records were reviewed to determine any differences in the clinical response to the variety of therapeutic agents. The selection of the antibiotic or sulfa drugs to be used for any particular patient was at the discretion of the resident on the ward.

One group of 30 cases in which only symptomatic therapy was given was composed of cases where a decision was made at the time of admission to use no therapy until the organism was identified by the laboratory. Then, when a report on the culture was made two to three days later, the patient was sufficiently improved in most instances and was continued on symptomatic therapy only.

The distribution of the severely ill and mildly ill children, as well as Flexner and sonnei type of Shigella, were generally comparable in the different treatment groups. Drugs were started on the first to fourth day of the disease and were continued for six to seven days, and as long as ten days in some instances. Terramycin and chloramphenicol were used in a dose of 50 to 60 mg. per kilogram of body weight, given orally; neomycin 1.5 to 2.5 gm. daily, by mouth; sulfadiazine 125 mg. per kilogram of body weight, by mouth; polymyxin 200 to 300 mg. daily, by mouth; aureomycin 35 mg. per kilogram of body weight, by mouth.

The kinds of treatment and the results are summarized in Table 2. "Duration of positive stools" as shown in the table was the length of time from admission until the first culture negative for Shigella was obtained. In this regard it should be noted that in most cases stools were not examined bacteriologically while treatment was being given. Examinations were resumed on the last day of therapy. This accounts for the fact that none of the periods was less than a week. Duration of hospital stay was determined by the City of San Francisco requirement that three negative stool cultures be obtained before discharge of the patient from the hospital.

The results as shown in Table 2 bring out the fact that Shigella enteritis is a self-limited disease. Thirty patients recovered satisfactorily with symptomatic therapy only. It was interesting that the clinical course as measured by the duration of fever and of diarrhea was not influenced by the administration of any one of the antibiotics. However, the length of time during which the stools remained positive was definitely cut down by the use of broad spectrum antibiotics and sulfadiazine. This shortened the hospital stay of the patient, as indicated.

Neomycin was tried on 13 patients and, as is clearly brought out in the accompanying table, a good many bacteriological failures were encountered. It did not exert any significant influence on

TABLE 2.—*Results of treatment of acute Shigella enteritis in 95 acute cases*

Treatment	Number of Patients	*Failure of Treatment	Duration (in days) of			
			†Fever	‡Abnormal Stools	Positive Stools	Hospital Stay (days)
Symptomatic only	30	0	2.2	4.0	13.0	21.6
Terramycin (acute cases; treatment started first or second day)	27	1	2.1	3.6	9.3	15.7
Terramycin (treatment started between twelfth and fortieth day)	5	1	2.0	3.4	32.6	40.0
Neomycin	13	4	1.9	8.6	19.0	22.4
Sulfadiazine	8	2	2.3	4.0	10.0	16.0
Chloramphenicol	6	0	2.0	5.0	8.0	13.0
Polymyxin	2	1	2.0	3.5	11.0	18.0
Aureomycin	2	0	2.0	2.0	6.0	16.0
Aureomycin and sulfadiazine	2	0	1.5	6.0	13.0	18.0

*These are cases in which culture of stools was positive for Shigella after a seven-day course of treatment.

†Rectal temperature above 100° F.

‡Liquid and bloody and containing large amounts of pus and mucus.

the course of the disease, and its use was discontinued for that reason.

In the 22 carriers (not included in Table 2) the disease was more resistant to therapy than it was in the acute cases. Eight of these 22 carriers were treated with multiple courses of drugs; four of them were treated with terramycin and the stools remained positive for Shigella. They were retreated with a combination of terramycin and polymyxin for one week. Three of the four then had negative cultures and one continued positive but finally became negative after treatment with chloramphenicol for one week. The hospital stay in the latter case was 39 days. Another carrier continued having stool cultures positive for Shigella after treatment with aureomycin and sulfadiazine. A subsequent week of therapy with terramycin, followed by one week's course of aureomycin did not rid the stool of Shigella. The stool finally became negative for the organism after a course of terramycin and polymyxin. The hospital stay was 56 days in this case.

MANAGEMENT

The use of sulfonamides and different antibiotics in treatment of Shigella infections has received a great deal of attention in the past few years. Cheever[1] reviewed the use of antibiotics up to 1952. Garfinkel[4] described experience with the management of 1,400 Korean prisoners. The addition of sulfonamides at first and, more recently, of the broad spectrum antibiotics has been an important adjunct in the management of Shigella enteritis. Lieberman and Jawetz[5] expressed the opinion that polymyxin is particularly useful in the treatment of the carrier state.

It is important in dealing with pediatric cases, however, that, besides the use of specific antibiotic therapy, the broad general principles of management of diarrhea in children and infants be kept in mind. Often children with the disease are severely dehydrated and acidotic. Intravenous administration of a hypotonic balanced electrolyte solution to replace lost fluid and electrolytes in acute cases is an essential aspect of management. Shock, if present, has to be treated by infusion of blood or plasma. For severely toxic, semicomatose children the use of oxygen is an addition to general supportive therapy. Children usually are anorexic during the acute phase of the illness, and only clear fluids are given. As the diarrhea and general well-being improves, a soft low-residue diet can be started to protect the inflamed bowel.

For many years soluble sulfonamides (particularly sulfadiazine) were considered the drugs of choice in the management of Shigella infections. Their usefulness is limited by two factors: (1) the recent observations of increasing numbers of strains of both Shigella sonnei and Shigella Flexner which are resistant to sulfonamides, and (b) the undesirability of giving sulfonamide to a dehydrated child because of the danger of crystalluria and hematuria. Terramycin, aureomycin and chloramphenicol are thought by many observers[2, 4] to be the drugs of choice for Shigella enteritis. The author's experience is too small to warrant any conclusions as to the preference of one antibiotic over another. Neomycin was found to be of very little value in the treatment of acute cases or carriers. Lieberman and Jawetz[5] found carriers to be resistant to any antibiotic therapy. Among the carrier cases in the present study also there was a significant number of failures of treatment with every antibiotic.

REFERENCES

1. Cheever, F. S.: Treatment of shigellosis with antibiotics in acute bacillary dysentery, J.A.M.A., 151:1157, April 4, 1953.

2. Felsen, J., and Wolarsby, W.: Acute and chronic bacillary dysentery and ulcerative colitis, J.A.M.A., 153:1069, Nov. 21, 1953.

3. Felsen, J.: Bacillary Dysentery, Colitis and Enteritis, W. B. Saunders & Company, Philadelphia, Pa., 1945, 618 pp.

4. Garfinkel, Lt. B. T., Martin, Lt. G. M., Watt, J., Payne, Capt. F. J., Mason, Col. R. P., and Hardy, A. V.: Antibiotics in acute bacillary dysentery, J.A.M.A., 151:1157, April 4, 1953.

5. Lieberman, D., and Jawetz, E.: Treatment of Shigella infections with polymyxins, Pediatrics, 8:249, Aug. 1951.

Colostomy Care

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• *Psychic preparation of the patient for the necessity of colostomy is a long first step toward his adjustment to living with an artificial anus. Proper surgical placement of the outlet will ease care of the bowel. Control of fecal consistency and peristaltic rate should ideally produce constipation responsive only to habit or enemata. The object of the enema is to produce an evacuation thorough enough to prevent soiling for a day or two. The object of dietary variations is to produce a manageable volume and consistency of fecal stream. The technique of enemas and choice of diet can be individualized when the underlying principles are understood.*

OPTIMAL CONTROL of function of the artificial anus and the bowel after colostomy depends upon maintaining proper consistency of the feces and peristaltic rate and upon a desirable constipation responsive to habit or enema.[3] Attention to many minor details—each alone perhaps seemingly unimportant—is necessary for the achievement of these results.

Since the patient's attitude toward colostomy is a great factor, a tactful approach to the matter by way of psychic preparation, before the operation is done, is indicated. Most patients should be told that the proposed operation may entail colostomy. However, the unexpected suggestion of colostomy at the first visit will often stampede a patient. It is usually wiser not to mention the possibility of colostomy until after the patient is hospitalized and has established some confidence in the physician. It is best to discuss colostomy as a procedure that will be used only if absolutely necessary. The patient should be so firmly convinced that, if the operation is done, he will have no lingering doubt as to whether or not it had to be done.

Many laymen have the idea that colostomy is always associated with fatal cancer, or have heard of "messy" palliative colostomy in helpless patients with constantly upset bowels. Without details, the first discussion should create the expectation that the patient will be quite able to live normally and to care for the disposal of feces himself. It is often useful to mention that many people, including senators, singers, actors and athletes are well adjusted to colostomy.

POSITION OF ARTIFICIAL ANUS

An excellent discussion of indications and techniques for colostomy has been presented by Wiley and Sugarbaker.[3] Placement should be preoperatively considered with the patient standing so that the surgeon may observe where on the abdomen a dressing will fit smoothly and be easily accessible to the reach and vision of the patient. Possible loss in weight and unusual occupational activities should be anticipated, as well as the type of clothing or possible desire to wear swimming trunks. A low opening sometimes interferes with sexual intercourse. A periumbilical position might better be avoided if the patient has a deep navel. Incisional herniae, dehiscence and wound infections are dangers in bringing the bowel through the incision. Probably the muscle splitting stab wound in the left lower quadrant is the most common placement.

SURGICAL TECHNIQUE TO FACILITATE CARE

The hole in the abdominal wall must be just the correct size to make either herniation or stenosis unlikely. Suturing of the bowel wall to the peritoneum, fascia or skin is better avoided owing to the possibility of fistulae from the stitches. At the completion of the operation the stoma should be left an inch and a half above the level of the skin so that after postoperative contraction it will be just about a half-inch above the skin level. If the subcutaneous fat is excessively thick, the skin about the stoma can be "umbilicated" by tacking the skin to the underlying fascia with a few interrupted sutures. A stump that looks perfect at the operating table will probably shrink and be too small later, whereas an error on the generous side can be corrected later by trimming in the office. It is easier to free the bowel to provide adequate exteriorization at the time of operation than it is to correct retraction of the stoma.

For the surgical dressing, vaseline gauze wrapped around the external stump of bowel should be placed in such a way that only the top layers need be disturbed to create the vent when the stoma is opened. Even though apparently soiled, these sealed underlayers of vaseline gauze upon the serosa and skin edges can remain adherent for several days. This

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wrapping of gauze serves to maintain the bowel in position while it seals and heals to the abdominal wall. A similar function is served by the clamp, on an end colostomy, which is left incorporated in the dressings.

POSTOPERATIVE CARE

In cases of obstruction of the bowel, a catheter may be placed immediately after operation to permit decompression. Usually, however, the opening is not made until 48 hours later. By then, in most cases, sealing of the peritoneum and of the edges of the wound has taken place. An even greater length of time may elapse if there is no indication of the development of obstruction. The external portion of bowel should be glanced at daily to note its color and to make sure it has not slipped back inside. With loop colostomy, the presenting antimesenteric border of the bowel may be opened with cautery to seal bleeding points. Occasionally ligation of a bleeding vessel is necessary. With proper preoperative preparation of the bowel, there is usually no need for irrigating after colostomy before the fifth or sixth day. However, if preparation was inadequate or the bowel was obstructed at the time of operation, irrigation a day after the opening may be desirable. The first irrigation is best performed by a physician or a thoroughly experienced nurse. With the patient lying on the left side, a large well-lubricated catheter is inserted gently to a depth of six inches or so. It cannot be forced, for danger of perforation definitely exists. If the catheter will not pass a fold of mucosa, water run through it will usually open the way ahead. Some sort of cuff (such as an inverted rubber nursing nipple) around the catheter may be necessary to prevent reflux spilling of the water. In the first few days it is not essential to continue enemas until all the contents of the bowel are evacuated.

Some surgeons administer a cathartic on the third to fifth postoperative day when the patient is accepting feedings. This liquefies the feces and overcomes inertia of the bowel induced by narcotics and ileus.

THE COLOSTOMY ENEMA

As soon as possible the patient should be taught to care for his own bowel, the nurse doing no more than handle the equipment and supervise. The enema should be given at the same time each day in order to establish a habit, the time of day chosen being one that will be convenient for the patient after returning home. Usually no more than a pint of fluid administered once or twice is necessary. Although the first irrigations are given with the patient in bed, it is soon more satisfactory for him to use commercial irrigating equipment while sitting on a chair before the open toilet. After the patient has cared for himself for a few days, he then should carry out the procedure while the physician watches to point out errors or demonstrate improvements and modifications in technique.

The object of the enema is to produce a reflex evacuation of the entire colon, ideally even of the cecum. It is not necessarily intended to wash out the entire cecum. The evacuated bowel will then store without emptying for another 24 to 48 hours. However, in some cases the bowel will not be satisfactorily emptied for long enough with a simple stimulating irrigation. Adequate cecal cleansing may require a high enema through an inflated Foley catheter which is collapsed and withdrawn after the cecum has been filled with water. At first it takes about an hour to give an enema through the artificial anus and completely evacuate the bowel, but later the patient learns to wear a bag after the enema to collect the discharge in less than an hour. After evacuation, the patient should feel secure with only a small dressing or Kleenex beneath an elastic girdle. If protracted delay between administration and return of the enema occurs, a little soapsuds may be added to the water. Cramps may result if the water is injected too rapidly or is too cool.

With an artificial anus, constipation is desirable so that evacuation occurs only by some habit-reflex or with an enema. Some patients develop such spontaneous regularity that irrigations are not needed. Many need the enema daily whereas others can go as long as two or three days between enemas without soiling. It is best to commence with daily irrigations and gradually increase the interval as the bowels become regulated and the contents solid. In rare patients with an irritable bowel, soiling several times daily may persist despite all efforts. In these cases a daily high enema should be continued and a dome or bag worn in the interval. The only exception to the rule against laxatives is the case of the rare person in whom the bowel contents become so firm that, despite enemata and liquids by mouth, the feces still are inspissated.

DIET

Manageable consistency and volume of fecal stream is the objective of diet. Most patients are finally able to return to their customary diet. A few always have to avoid any but constipating foods and milk, refined cereals, cheese, fish, beef, bread, potatoes, macaroni, rice and foods that have little indigestible residue. Such foods as fresh fruits and juices, green vegetables, whole cereals and breads, cabbage, beans and corn produce considerable residue or are laxative and should be avoided until the patient learns by adding one at a time what can be tolerated. Certain fruits and juices may increase peristalsis and should be used only when the stools get too hard. Prohibited foods (which usually interfere with regularity) include spices, uncooked or fibrous vegetables, iced or carbonated beverages, all fried foods and usually pork, veal and duck.

Peristaltic activity and the time taken for foods to pass through the gastrointestinal tract depend much upon diet. Diminution of peristalsis can be accomplished when necessary with cholinergic drugs such as amphetamine sulfate administered postprandially so as not to interfere with the appetite.

CARE OF STOMA AND SURROUNDING SKIN

During the first postoperative weeks, the exposed serosa and mucosa may be very friable and bleed upon removal of dressings. Hence fine-mesh vaseline impregnated gauze is preferred. If cellulitis develops around the stoma, it is treated with warm, moist compresses and antibiotics, and the removal of any stitches restricting drainage.

Unless there is diarrhea there is usually no irritation of the skin about the artificial anus formed by colostomy. Should cutaneous irritation develop, cleanliness, exposure to air and the use of an ointment containing thymol iodide or a silicone is ordinarily effective. Inability to control flatus may be made less embarrassing by consumption of charcoal tablets or chlorophyl. Herniation of the stoma or of the area about it, if bothersome, can be reduced and held inverted by a bulky pad worn beneath a corset or supporter. If manipulation is necessary to keep the stoma adequately dilated, the patient or a relative can be taught to insert an index finger into the opening once or twice a week. If strictures occur they are almost always at the mucocutaneous junction, and surgical correction is necessary. Usually the operation is relatively minor and it should not be postponed so long that the opening becomes so small that more extensive revision is demanded.

INFORMATION TO PATIENT

Minimum instructions to the patient should include the information listed below. (They should be provided in writing if the patient has difficulty in remembering or understanding them.)

1. Irrigate with a quart of lukewarm tap water at least once a day at a regular time. The container should be elevated about a foot above the level of the opening in the abdomen. A lubricated catheter should be inserted slowly and gently six to eight inches and the water allowed to run in slowly. When all the water has run in, the catheter should be removed and at least 30 minutes allowed for the returns to be expelled.

2. After the enema has evacuated, do not wear a colostomy bag. Cover the abdominal opening with Kleenex held in place by a wide elastic abdominal band or girdle.

3. Keep the colostomy opening wide by inserting the index finger past the second joint about twice a week. (Rubber finger cots can be purchased at the drug store for this purpose.)

4. Take no laxatives. Avoid fruits which produce bowel irritations or looseness, such as certain raw fruits, beans, corn and spices. If the feces are too hard, drink more water.

5. Remember that ideally the bowel should remain constipated and evacuation should occur only when it is expected to or when irrigation is carried out.

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REFERENCES

1. Colcock, B. P.: Surgery, 31:794, May 1952.

2. Durand, B.: Am. J. Surg., 87:127.

3. Wiley, H. M., and Sugarbaker, F. O.: Surg., Gyn. and Obst., 90:435, Sept. 1950.

Planned Care for Patients with Bronchiectasis

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• Bronchiectasis, for which once only the most elementary palliation could be offered, now often can be cured by operation or well controlled by conservative therapy.

Since true bronchiectasis implies irreversible anatomic changes, operation offers the only hope of cure, and it should be undertaken whenever it is not contraindicated by extent of involvement, age of the patient or other factors. Surgical results are excellent and mortality is at a minimum.

When operation is prohibited, good results can still be anticipated by conservative measures. Such conservative therapy should combine prolonged use of antimicrobial drugs with adequate drainage of the diseased segments and general supportive measures. Any residual infection can be controlled by moderate use of appropriate antimicrobial agents.

It is emphasized, however, that the control of bronchiectasis requires very careful diagnostic studies and a detailed analysis of the patient's condition, and that the therapy itself must be carefully adjusted in terms of the individual situation.

TWENTY-FIVE YEARS AGO bronchiectasis was regarded as a chronic disease largely beyond the reach of medical care. The patient could be palliated by postural drainage and by the general hygienic regimens used in tuberculosis, and the bad breath and fetid sputum characteristic of the disease could be ameliorated by creosote. But with or without medical treatment the patient could usually be expected to die within ten years after diagnosis. In a few instances, advanced cases of bronchiectasis were approached surgically by such desperate procedures as thoracoplasty and cautery pneumonectomy, with occasional improvement as a result.

This generally hopeless prognosis of a few short years ago has of course been almost completely reversed. At present, complete cure is often possible by means of surgical extirpation, and in almost every other case the disease can be controlled indefinitely by modern medical therapeutic techniques. This is not to say that the management of bronchiectasis is simple. Underlying the infectious process of true bronchiectasis are irreversible pathological changes in lung structure; and these changes complicate therapy. Each case is an individual problem, and the medical approach to it must be planned in detail if treatment is to be successful. To borrow a military metaphor, bronchiectasis cannot be controlled by a single battle, but only by a carefully planned and conscientiously followed campaign.

DIAGNOSTIC CONSIDERATIONS

The clinical symptoms of bronchiectasis have been accurately described for many years, but since they are the same as those of any other chronic bronchopulmonary suppuration, it is necessary to accurately establish the diagnosis of bronchiectasis and to delineate the extent of the disease. Unless the lesions are so grossly visible on ordinary x-ray films of the chest as to make it superfluous, bronchography is an indispensable procedure. Ideally, both lungs should be entirely mapped with iodized oil even though several roentgenographic studies are required. This is essential for the evaluation of the patient for surgical treatment and is valuable in planning adequate postural drainage. Contraindications to such studies include sensitivity to iodized oil or to local anesthetics.

In a significant number of cases bronchiectasis is secondary to demonstrable bronchial obstruction or stenosis. X-ray films can suggest this possibility, but they are not a substitute for direct bronchoscopic visualization of the bronchial tree. Tumors, foreign bodies or bronchial stenosis secondary to inflammatory changes may be recognized and appropriately treated. Bronchoscopic examination should always be considered in the evaluation of a case of bronchiectasis. In addition to its direct aid to diagnosis this procedure can be very helpful in clearing major bronchi of inspissated mucous plugs and other debris. Cytologic studies for malignant cells should be done routinely.

GENERAL MEASURES

When a diagnosis of bronchiectasis has been made, treatment should begin with hospitalization if this is at all possible. In part, hospitalization is

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desirable in order to facilitate the control of all the secondary factors which may contribute to the primary disease process. Proper rest, adequate nutrition and hygienic conditions can thus be assured. Anemia, if present, (as it often is with bronchiectasis), can be treated intensively. Also, psychological depression which frequently accompanies bronchiectasis can be dispelled.

Furthermore, hospitalization permits the full investigation and treatment of associated diseases. Chronic upper respiratory tract infections, particularly sinusitis, which continually "feed" the damaged lung segments, must be controlled before control of bronchiectasis is possible. Allergic reactions that bring about bronchospasm and mucosal edema, and thus interfere with drainage, must be controlled. Underlying nutritional disturbances such as occur in mucoviscidosis (pancreatic fibrosis) must be diagnosed and treated appropriately.

SURGICAL TREATMENT

Bronchiectasis is perhaps unique among infectious diseases in the fact that surgical operation, if possible, is the procedure of choice. It offers the only hope of real cure, and, further, this cure can be effected without serious postoperative disability if reasonable care is used in the selection of patients. The great advantages of operation have become particularly apparent since segmental resection was introduced by Churchill and Belsey in 1939.

Each surgeon will of course apply his own criteria of operability. In general, it can be said that the most critical factor is the amount of tissue involved. Although the hazard of a major operative procedure naturally increases with the age of the patient, operation is not necessarily precluded by an age of 50 or even 60 years. Neither is it precluded by bilateral disease, if the total area involved is not too great. The most important contraindications are (1) irreversible bronchospastic states resulting from allergic reaction or chronic infection or (2) fibrosis and emphysema, which are in themselves disabling.

To no small degree, the desirability of surgical treatment of bronchiectasis is due to the remarkable achievements that have been made in this field of thoracic surgery in the past 15 years. At present, hospital mortality ordinarily does not exceed three per cent, even when cases of bilateral disease are included in the computation. In addition, about 75 per cent of the patients who are operated upon are completely cured and another 15 per cent have only mild residual symptoms. Only about 10 per cent of the operations are classified as failures.[4, 6]

There is little doubt that even this impressive record can be improved upon by rigorous preoperative studies. A large portion of the failures heretofore recorded have been classified as due to "incomplete operation." This can be avoided in almost every instance if both lungs are completely mapped with iodized oil. It should be recognized that bronchograms are not without their limitations. Failures of the kind attributed to a preexisting bronchospastic state or to irreversible fibrosis and emphysema can also be minimized by thorough diagnostic studies, although admittedly these conditions are more difficult to evaluate. Surgical complications, another cause of failure, are of course already incalculably reduced by intensive preoperative medical therapy, as well as by continued improvement in surgical technique and anesthesia. The development of new areas of bronchiectasis in the distorted residual segments is a fourth possible cause of failure.

A case report illustrates the typical surgical situation:

A 32-year-old white housewife who was first observed in January of 1945 said that she had had recurrent chest colds since 1941 and in the summer of 1943 had had "virus pneumonia." Since that time she had raised a teaspoonful of "vile-tasting" yellow sputum a day; and there had been several episodes of hemoptysis shortly after recovery from pneumonia. The patient complained of chronic fatigue.

Upon examination the right middle lobe appeared to be the source of the sputum, and postural drainage and treatment with penicillin were instituted, with some relief of symptoms. Pregnancy delayed further evaluation, but the patient returned in October of 1945. At that time bronchography revealed cylindrical bronchiectasis in the right middle lobe (Figure 1). The patient refused to undertake intensive therapy of any sort at that time, but about a year later she finally consented to resection, and the right middle lobe was removed. Thereafter there were no complaints referable to the chest, except for an occasional cold.

It does no disservice to medical terminology to label the foregoing case a cure. Although this kind of operation is still too new to permit certainty in the matter, there is no physiological reason apparent for supposing that this patient is not essentially "normal," with the general life expectancy of her age group.

CONSERVATIVE TREATMENT

It must be reiterated that only operation offers hope of cure in bronchiectasis; the anatomic and physiologic abnormalities characteristic of the disease are not amenable to conservative therapy. On the other hand, a well-balanced and judicious program of conservative therapy can control the disease in almost every instance, and it can restore the patient to normal life within reasonable limits. However, this possibility can only be realized by intensive and prolonged treatment.

The first step in conservative therapy is to effect maximum drainage of the infected area. In many

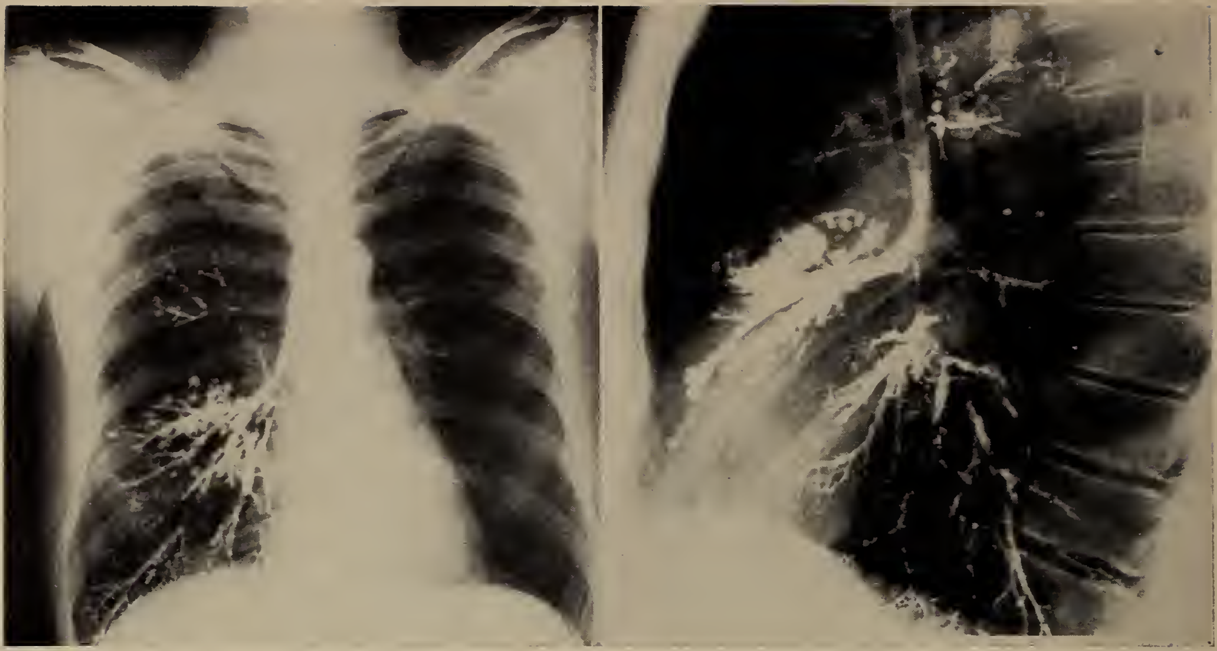

Figure 1.—Cylindrical bronchiectasis in the right middle lobe.

instances the contribution that bronchoscopy can make to this end is very important, since it permits aspiration of the inspissated mucous plugs and other debris difficult to approach in any other way. Local bronchoscopic instillation of antibacterial agents may be accomplished at the same time. Postural drainage, however, remains the most important technique available for the removal of bronchial secretions. It should be done routinely several times a day and should be continued even after the infection has begun to respond to antibacterial therapy. The facilitation of expectoration by various pharmacologic preparations has long been practiced, but the availability of mucolytic enzymes[7] and detergents has added a whole new dimension to this kind of therapy. The enzymes, highly purified trypsin (Tryptar®) and Streptokinase-Streptodornase,® must be used with caution.[3] At times they produce a frothy sputum so thin that it is difficult to expectorate; they may also induce a considerable degree of bronchospasm. A detergent, Alevaire® (Triton WR 1339, 0.125 per cent in combination with 2 per cent sodium bicarbonate and 5 per cent glycerin) has been found to assist liquefaction of sputum in many cases without harmful side-effects. This substance has the additional advantage of being chemically inert, so that it may be used as a vehicle for antibiotics, bronchodilators and vasoconstrictors. It may be administered by a nebulizing technique.

In many, if not in most, cases of bronchiectasis there is some degree of bronchospasm as well as mucosal edema, both of which impede the drainage of secretions. Phenylephrine (Neo-synephrine®) is a decongestant of value. Bronchospasm generally responds well to either racemic epinephrine solution (Vaponefrin®) or to isopropylarterenol hydrochloride (Isuprel®). In the authors' experience these drugs have been most effective when administered by means of a Vaponefrin nebulizer connected to an oxygen tank through a "Y" tube, or in a Bennett Intermittent Positive Pressure Therapy Unit. They should be administered just before postural drainage. If the effect of these bronchodilators is unsatisfactory or they are not tolerated, aminophylline may be found to be of value in the condition.

In most cases, a combination of the above-described techniques is sufficient to assure the first objective of therapy, an adequately drained bronchial tree. When it is obvious that these measures do not permit drainage, the problem is generally tussic insufficiency, owing to deficient aeration in the bronchiectatic segments. This condition is most likely to occur in chronic cases of long standing. Therapy must be directed to the increased ventilation of such segments. Perhaps the two devices designed by Barach, the exsufflator and the artificial cough chamber, accomplish this most effectively; but both devices require modified respirators or lung-immobilizing chambers, which are not yet generally available.[1, 2] The authors have obtained excellent results with the Bennett Unit, which provides intermittent positive inspiratory pressure with a rapid fall to atmospheric levels upon expiration. The Bennett Unit not only helps in the ventilation of diseased lung segments, it permits the simultaneous nebulization of bronchodilators, antibiotics and other drugs.[5]

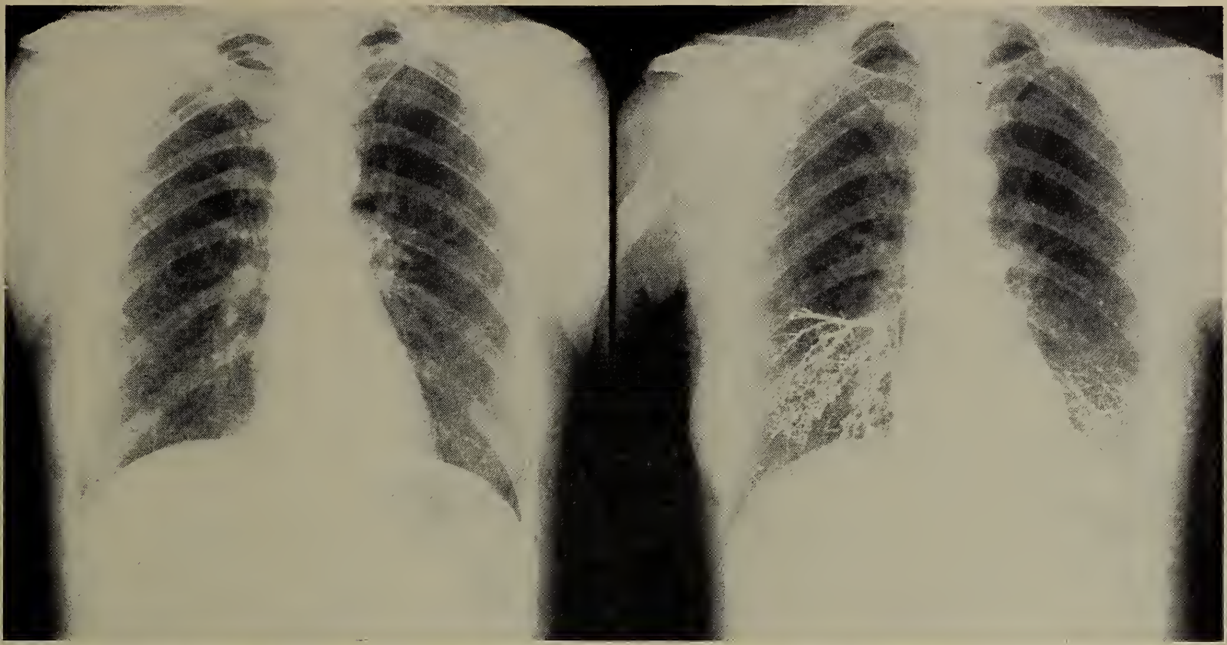

Figure 2.—Roentgenograms with contrast medium, showing extensive bronchiectasis in left lower lobe.

The basis for modern conservative treatment of bronchiectasis is intensive and prolonged use of antimicrobial agents. Success depends in great measure upon two principles—careful selection of drugs, and persistence in maintaining therapeutic levels of the selected drugs. Because of warning as to toxicity and the dangers of resistance and sensitization, there has been a good deal of reluctance to use these drugs over prolonged periods. The authors' experience, however, has indicated that over-extended use is preferable to incomplete therapy. Sensitization and the development of resistant strains has not been particularly troublesome and side-effects have been minimal; and it is believed that resistant organisms are usually the product of incomplete and haphazard treatment rather than of undue prolongation of therapy.

Before therapy is started, sensitivity studies should be done upon the organisms cultured from the sputum, because of the ever-increasing incidence of resistant organisms. Penicillin and streptomycin are usually the drugs of choice if they are effective against the organisms in the sputum, for they do not predispose to monilial infection. Penicillin and streptomycin are usually continued for one to three months. Erythromycin may also prove to be valuable because of its antibacterial range. In smaller doses it may be maintained for up to a year. In general, it is very important that antibiotics be prescribed that will be effective against the entire range of microorganisms present in the sputum. Repeated cultures should be made during the course of therapy to detect the appearance of resistant strains or of organisms not affected by the antibiotics used as indicated by the clinical course.

It should be pointed out that the content of antibiotics in the sputum is at least as important as the content in the blood. Since the flow of blood through bronchiectatic lung segments is often greatly impaired, blood levels that otherwise would be adequate cannot be assumed to guarantee effective therapy. For this reason, the inhalation of nebulized mists of antibiotics, or of micronized dusts, can contribute considerably to therapy. The sulfonamides and penicillin, streptomycin and terramycin have been most commonly used in these ways.

Intensive antimicrobial therapy should be continued for at least two weeks after all grossly purulent elements have disappeared from the sputum. Then dosage should be gradually reduced, and, if no recrudescence occurs, intensive therapy should be discontinued. Further antimicrobial therapy with preparations such as sulfonamides or erythromycin for oral administration should be administered for a period of many months, until it becomes clear that all residual infection has been eliminated. This is, of course, ambulatory therapy, during which the patient may pursue normal activities.

Bronchiectatic patients remain especially liable to acute respiratory infections, but these may be easily controlled by brief courses of intensive therapy. Otherwise they should be restored to full activity within the limits set by the amount of functioning lung tissue remaining.

At times bronchiectasis of long standing will not clear completely under this procedure. Excellent success in controlling such cases, however, has been obtained by continuing medication in reduced dosage on a semi-permanent basis. The sulfonamides are excellent for this purpose, since they can be taken orally and the development of resistance has not been a serious problem. By this means the patient may be kept free of bronchial symptoms indefinitely and restored to excellent general health. Medication in some patients can be temporarily withdrawn during the summer months and begun again each fall. Chemoprophylaxis has a place in dealing with bronchiectasis comparable to its use in rheumatic fever. Small doses of sulfonamides (1 to 2 grams per day) are useful in preventing new infection with sensitive bacteria.

The following case report illustrates the conservative therapeutic procedures:

A 51-year-old white housewife, first observed October 31, 1949, said she had raised thick green sputum for as long as she could remember, usually upon bending over or lying down. During the previous winter three attacks of hemoptysis had occurred, with repeated episodes of pleurisy. Nasal allergic disease had been controlled by dietary limitation.

Roentgen studies with Lipiodol showed extensive bronchiectasis in the left lower lobe (Figure 2). Conservative therapy was insisted upon by the patient and she was admitted to the hospital in November. Besides postural drainage, a course of combined penicillin and streptomycin therapy was instituted, both intramuscularly and by nebulizer. At the end of two months, sputum had become mucoid and there was pronounced improvement in subjective symptoms. The patient was discharged from the hospital and put on a regimen of 1.5 gm. of triple sulfonamides twice daily. This was maintained until the following summer—a period of about five months.

When last observed more than four years later the patient was in excellent general health, and except for occasional episodes of acute bronchial infection once or twice a year she had been free from bronchial symptoms. The episodes of infection were easily controlled with penicillin, erythromycin and other antibiotics.

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REFERENCES

1. Barach, A. L., Beck, G. J., Bickerman, H. A., Seanor, H. E.: Physical methods simulating cough mechanisms, J.A.M.A., 150:1380, 1951.

2. Barach, A. L., Beck, G. J., and Smith, W.: Mechanical production of expiratory flow rates surpassing the capacity of human coughing, Am. J. M. Sc., 226:241, 1953.

3. Farber, S. M., Gorman, R. D., Wood, D. A., Grimes, O. F., Pharr, S. L.: Enzymatic debridement, J. Thor. Sur., 27:45, 1954.

4. Lindskog, G. E., and Liebow, A. A.: Thoracic Surgery and Related Pathology, Appleton-Century-Crofts, Inc., New York, 1953.

5. Smart, R. H., Davenport, C. K., and Pearson, G. W.: Intermittent positive pressure breathing in emphysema of chronic lung diseases, J.A.M.A., 150:1385, 1951.

6. Storey, C. F., and Laforet, E. G.: The surgical management of bronchiectasis, U. S. Armed Forces M. J., 4: 469-523, April 1953.

7. Unger, L., and Unger, A. H.: Trypsin inhalations in respiratory condition with thick sputum, J.A.M.A., 152:1109, 1953.

Diuretics in Therapy of Epilepsy

Their Use for the Potentiation of Anticonvulsant Drugs

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• *Animal experiments having indicated a nearly twofold increase in anticonvulsant protection with the use of diuretics which increase blood-brain barrier permeability, the principle was applied to treatment of humans with epilepsy. The addition of diuretics to anticonvulsant medication permitted a decrease of previously toxic dosages in ten epileptics, followed for six months, without lessening (and in some cases improving) the control of seizures.*

In three cases excessive diuresis and gastric distress necessitated discontinuance or decrease in dosage of the diuretic used.

It is generally agreed that regardless of the method followed or medication used, approximately 25 per cent of epileptic persons cannot be rendered entirely free of seizures. As the number of commercially available anticonvulsants reaches the dozen mark, it also becomes increasingly obvious that most of the drugs introduced during the past decade pose serious problems owing to their toxic effects. When the functions of the liver and hematopoietic system become involved, besides mere intolerance, danger to life has to be seriously considered. The 25 per cent of epileptic persons who cannot be entirely freed of seizures are at present being treated on the basis of an unsatisfactory compromise between efficiency and toxicity. Adequate amounts, therefore, are often not tolerated.

It is assumed that drugs are selected for anticonvulsant trial on the basis of (a) the presence of certain radicals in the formula; (b) their ability to provide protection against experimentally produced convulsions; (c) their low toxicity. If experiments indicate that a preparation is high on the list from the point of view of anticonvulsant protection, yet low with regard to deleterious effects, it is then ready for a tryout on humans with epilepsy. It is further assumed that while the point of action of such a drug is in the brain, not all of the dose reaches its destination. One filter point exercising control over the drug absorption is the blood-brain barrier. The critical anatomical substratum of this barrier is believed to be the endothelial lining of the cerebral capillary bed.

For a working hypothesis it is assumed that any mechanism that could increase the permeability of the blood-brain barrier is likely to increase the drug's absorption by and passage into the brain. While the exact site of action of anticonvulsants is still not well known, certain it is that they should exert their maximal action at the point of origin of the electrical storms which, through a series of facilitatory processes, detonate a wide number of neurons into a clinical epileptic attack. Probably the most intensive increase in blood-brain barrier permeability is brought about (in experiments on animals) by exposing the head to the effect of ultrasonic treatment. This method is not entirely safe apart from the fact of its being impractical for possible routine use in humans. It proved to be preferable to use the large reservoir of diuretic substances which are known to increase general tissue permeability including that of the blood-brain barrier. Instead of chemical analysis of the blood on one hand and the cerebrospinal fluid on the other, the passage of the drugs under study was monitored with the aid of electroencephalograms, upon which both convulsants and anticonvulsants print a typical, clearly identifiable pattern that could serve as an end point.

The original impetus for such a utilization of diuretics was supplied by Frölich and Zak,[5] who succeeded in producing clinically satisfactory strychnine and morphine effects in frogs with lower than average doses if they previously treated their animals with the diuretic, theophyllin. Blood-brain barrier permeability in connection with epilepsy (and other neurological diseases) has been under scrutiny from another direction by Cobb[4] and particularly by Aird.[1] On the assumption that seizures might possibly occur either during increased permeability to metabolic noxi or undue ingress into the brain of normal blood constituents, they attempted to raise the barrier by the use of vital dyes

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which, according to Spatz,[7] have the singular property of settling down in the endothelial lining of the capillaries. While this treatment was pursued with initially encouraging results, it should also be pointed out that Katzenelbogen,[6] using the bromide infiltration method, was not able to prove statistically a direct relationship between increased seizure liability and high blood-brain barrier permeability.

The starting point of the experimental part of the work here reported upon was a paper by Ziskind and Bercel[8, 9, 10] which indicated that slow intravenous injection of 1 per cent Metrazol® solution in rabbits produces a preconvulsive seizure discharge which can be delayed by prior treatment with anticonvulsants. The delay in the appearance of the end point, expressed in milligrams of Metrazol, was considered a measure of anticonvulsant protection. The minimum electroencephalogram distortion dose for anticonvulsants was established by the earliest appearance of sleep patterns in the electroencephalograms of animals that received increasing amounts of anticonvulsants.[3]

Forty rabbits were used to test the anticonvulsant-enhancing effects of diuretics.[2] It was found that the first seizure discharge occurs after injection of 9 mg. of Metrazol. When the animal was protected by 40 mg. of phenobarbital given by vein (double the minimum distortion dose) for three minutes, the seizure discharge occurred after 22 mg. of Metrazol. When the animal was prepared with theophyllin sodium acetate, 15 mg. per kilogram of body weight, and after three minutes the 40 mg. per kilogram of phenobarbital was administered followed in another three minutes by Metrazol, the first seizure discharges occurred after 15 mg. However, when the same experiment was repeated with the difference that ten minutes elapsed between theophyllin and phenobarbital administration, the seizure discharge did not occur until after 42 mg. of Metrazol was introduced intravenously. All these figures were average values.

The time elapsed between the administration of theophyllin and the administration of phenobarbital, therefore, appeared to be critical. It seems that when phenobarbital is given as early as three minutes after the diuretic (when the concentration of diuretic is still high) anticonvulsant protection is actually reduced from 22 mg. to 15 mg. It is believed that the initial cerebral stimulant effect of theophyllin is responsible for this phenomenon, it being known that very large doses of this diuretic can even produce convulsions. Large concentration of theophyllin, therefore, acts synergistically with Metrazol. When the time interval is at least ten minutes, the gradual dilution of theophyllin cuts down its stimulant effect while the permeability-raising action becomes prevalent. Thus, the anticonvulsant protection is enhanced nearly twofold from 22 mg. to 42 mg. of Metrazol.

Another set of experiments indicated that theophyllin, followed in ten minutes by phenobarbital, lowered the minimum distortion dose from 20 mg. to 10 mg. This means that spindles indicating sleep in the electroencephalogram appeared with half the dose if the animal's blood-brain barrier permeability has been raised by the diuretics. Salyrgan® 1 per cent, 5 mg. per kilogram of body weight, and theobromine sodium salicylate 1 per cent, 20 mg.

RESULTS OF ADDING DIURETICS

	No. of Seizures per Month —Before and After Addition of Diuretic—			Toxic Effects of Anticonvulsants —Before and After Addition of Diuretic—		Anticonvulsant Therapy (Doses* per Day) Phenobarbital		Dilantin®		Mesantoin®	
Case	Type	Before	After	Before	After	Before	After	Before	After	Before	After
1	Grand Mal Petit Mal	2 120	0 10	None	....	1	1	4	4		
2	Grand Mal Petit Mal	0 6	0 6	Rash	Eliminated			7	4		
3	Jacksonian	8	0	Nausea and vomiting	Eliminated	2	1	5	5		
4	Grand Mal Petit Mal	0 60	0 60	None	....			2	2		
5	Grand Mal Petit Mal	0 12	0 0	Leukopenia	Eliminated	1	1				
6	Grand Mal Psychomotor	2 4	1 4	Constipation	Eliminated	2	1	7	6		
7	Grand Mal Petit Mal	1 0	½ 0	Leukopenia	Eliminated	2	2			6	3
8	Grand Mal Jacksonian	2 12	1 8	None	....	1	1	5	5		
9	Petit Mal	6	0	None		1	1				
10	Petit Mal	160	160	Leukopenia	Eliminated			2	2		

*Single doses for various drugs follow: Phenobarbital, 0.1 gm.; Dilantin, 0.1 gm.; Mesantoin, 0.1 gm.; Tridione, 0.3 gm.; Mysoline, 250 mg.;

per kilogram, had the same effect as theophyllin. Tridione® could be substituted for phenobarbital. These studies suggested that diuretics facilitated the admittance of anticonvulsants in the brain in doses that ordinarily did not alter the electroencephalogram.

In order to test this principle in humans with epilepsy, ten patients of the kind previously mentioned—in whom adequate anticonvulsant medication had toxic effect—were carefully selected. The patients ordinarily had seizures with sufficient frequency to permit relatively rapid evaluation of the therapeutic effect. The medication they were receiving at the onset of this trial represented the optimum regimen achieved after long experimentation with a combination of drugs. The monthly number of seizures was determined for a six-month period before the addition of the diuretic to the anticonvulsant medication they were receiving. This was then compared with the monthly seizure averages of another six-month period following the addition of diuretics to the drugs usually taken. Where the amount of anticonvulsant had to be reduced because of toxic side-effects, the reduction was done slowly during the first of the six-month periods. The results are shown in Table 1. The following case history serves as an example of the successful use of the diuretic:

REPORT OF A CASE

The patient was a 16-year-old girl who had had idiopathic epilepsy (predominantly petit mal, rarely grand mal) since the age of nine years. After extensive clinical trial, she was given 1.5 gm. of Tridione daily in divided doses and 90.0 mg. of phenobarbital. The major attacks were eliminated but the patient still had an average of 12 petit mal seizures a day. When the amount of Tridione was increased to 2.3 gm. daily, as was done on several occasions, seizures stopped but leukopenia developed—2,000 leukocytes per cu. mm. on one occasion. Theominal (theobromine, 0.3 gm., and phenobarital 30.0 mg.) thrice daily was added to the regimen and thereafter the patient was free of seizures with the dosage of Tridione at 0.9 gm. daily.

The diuretic most often used was theobromine, 0.3 gm., with or without phenobarbital and theophyllin, .09 gm. to 0.15, twice or thrice daily. These tablets were taken with meals and the anticonvulsants were given after eating. In only one case was diuresis so increased that the diuretic had to be omitted; and in two cases theophyllin caused nausea, necessitating a reduction in dosage.

Toxic symptoms such as leukopenia, exanthema, gastric distress, constipation, headaches, nausea, vomiting and lymphadenopathy, which appeared with large amounts of medication, disappeared with the reduction in dosage; and after the reduction the lesser amount was either more effective clinically or as effective as the same amounts had been before. No patient had more attacks than before.

The economy in medication amounted to an average of 30 per cent (range 10 to 50 per cent). A more important advantage, however, was the patients' ability to tolerate some of the drugs for the first time.

It is not yet certain that the diuretics used and the dosages in which they were given are the best available. Experiments with a number of substances

TO ANTICONVULSANT THERAPY

Before and After Addition of Diuretic						Type of Diuretic and Number of Daily Doses		Summary of Effects of Addition of Diuretic		
Tridione®		Mysoline®		Milontin®						
Before	After	Before	After	Before	After	Diuretic	No.	Seizures	Dosage of Anticonvulsants	Toxic Effects
				6	6	Theominal	3	Reduced	Same	*None before*
						Theophyllin	2	Same	Reduced	Eliminated
						Theominal	3	Reduced	Reduced (Sedative only)	Eliminated
		5	1			Theophyllin	2	Same	Reduced	*None before*
5	3					Theominal	3	Reduced	Reduced	Eliminated
						Theobromine	3	Reduced	Reduced	Eliminated
5	5					Theobromine	3	Reduced	Reduced	Eliminated
						Theominal	3	Reduced	Same	*None before*
				9	6	Theominal	3	Reduced	Reduced	*None before*
6	3	4	1			Theophyllin	2	Same	Reduced	Eliminated

Milontin, 0.3 gm. Diuretics: Theominal = Theobromine, 0.3 gm. + phenobarbital 30.0 mg.; Theophyllin, 0.09 — 0.15 gm.; Theobromine, 0.3 gm.

combined in one capsule with the various anticonvulsants are being carried on. The results appear to be sufficiently encouraging to warrant further more extensive clinical trial.

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REFERENCES

1. Aird, R. B.: Mode of action of brilliant vital red in epilepsy. Arch. Neurol. and Psychiat., 42:700-723, Oct. 1939.

2. Bercel, N. A.: Pharmacological increase in blood-brain barrier permeability as an adjuvant of anticonvulsant protection. Third Internat. Cong. of Electroencephalography and Clinical Neurophysiology, Cambridge, Mass., 1953.

3. Bercel, N. A., and Ziskind, E.: Comparative efficacy of anticonvulsants studied with a new technique, Tr. Am. Neurol. Assn., 72:173, 1947.

4. Cobb, S., Cohen, M. E., and Ney, J.: Anticonvulsive action of vital dyes, Arch. Neurol. and Psychiat., 40:1156-1177, Dec. 1938.

5. Frölich, A., and Zak, E.: Theophyllin und seine Gewebseirkung als Mittel zur Potenzierung von Giften und Arzneien, Arch. f. exper. Path. u. Pharmakol., 121:108-130, 1927.

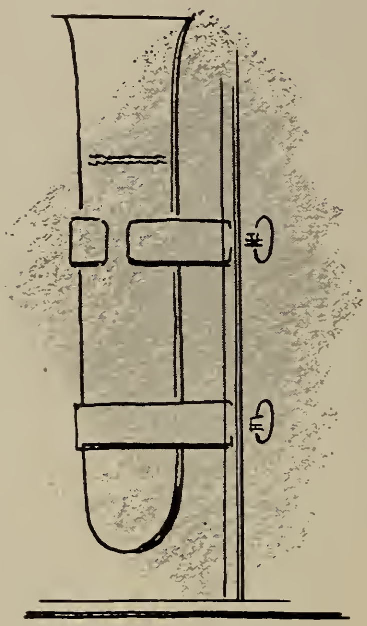
6. Katzenelbogen, S.: The Cerebro-Spinal Fluid and Its Relation to the Blood, The Johns Hopkins Press, Baltimore, 1935.

7. Spatz, H.: Die Bedeutung der vitalen Färbung fur die Lehre vom Stoffaustausch zwischen dem Zentralnervensystem und dem übrigen Körper, Arch. f. Psychiat., 101:267-358, 1934.

8. Ziskind, E., and Bercel, N. A.: Studies in convulsive thresholds. II. Convulsive thresholds in epileptics and non-epileptics, Trans. Am. Neurol. Assn, 1946.

9. Ziskind, E., and Bercel, N. A.: Preconvulsive paroxysmal EEG changes after Metrazol injection. "Epilepsy," the Williams and Wilkins Co., Baltimore, 1947, p. 487.

10. Ziskind, E., Bercel, N. A., and Friedman, R.: Preconvulsive paroxysmal electroencephalographic changes after Metrazol injection, J. Nerv. and Mental Dis., Vol. 3, No. 1, Jan. 1950.



A Laryngologist Looks at Cigarettes

MERVIN C. MYERSON, *M.D.*, Beverly Hills

• *The relationship between cancer of the lung and cigarette consumption is far from proved. It would appear from observations and experiments cited that some form of filtration of smoke is better than none. It is important that physicians be sufficiently acquainted with the subject to enable them to advise their patients concerning cigarettes and cigarette smoking.*

WHAT IS THE TRUTH about cigarettes? Are they really irritating; do they cause cancer? What brand or type of cigarette would you recommend? These are some of the questions being asked of physicians today.

Most of the present-day impressions concerning the effects of cigarette-smoking upon the structures of the respiratory tract have not come from the medical profession; unfortunately they have originated with the advertising agencies who have issued much misinformation on the subject.

The influence of excessive smoking upon the cardiovascular system is well known. It is only recently, however, that the effects of smoking upon the respiratory tract have been given much attention. In the author's opinion, one who smokes more than 20 cigarettes a day is smoking excessively, although half that many may be too much for some persons.

The relationship of excessive smoking to cancer of the lung is regarded by some investigators as established. Despite the excellent articles of Wynder and Graham,[16] Doll and Hill,[4] Ochsner and DeBakey,[11] Mills and Porter,[9] and Lindskog and Bloomer[8] which indicate a steady increase in the incidence of cancer of the lung, mostly in smokers, there are many considerations which are not in full agreement with the suggestion of such a relationship.

Some of the facts which must be taken into consideration follow. Cancer of the lung occurs in nonsmokers. The rise in the occurrence of lung cancer came at the turn of the century, whereas the first pronounced increase in cigarette consumption occurred immediately after the first World War. It is significant that the diagnosis of cancer of the lung has been more accurate and more readily made in recent years because of better facilities and greater cooperation from the average patient. The reported incidence of cancer of the lung is highest in areas where hospital and diagnostic facilities are better; in Idaho where the annual per capita consumption of cigarettes is 2,003 the incidence of this condition in relation to cancer at all sites is 2.9 per cent, while in New York State with an annual per capita consumption of 2,319 cigarettes the incidence is 11.9 per cent. Also the reported incidence of cancer of the lung is higher in urban than in rural areas. In 1936, Arkin and Wagner estimated that 20 years before, primary lung cancer was diagnosed in only 5 per cent of cases; by 1936, the figure had risen to 50 per cent. More persons now survive severe infections than ever before and live on, later to die of cancer of the lung and other conditions. A Foreign Letter published in the *Journal of the American Medical Association,* May 1, 1954, stated that in 1952 in England and Wales 11,981 males and 2,238 females died of cancer of the lung. The figures also showed that the highest mortality rate for this disease was in the age group 65 to 74 years for males and 75 years and over for females.

Although evidence of excessive cigarette smoking frequently is seen in the pharynx and larynx, the rise in incidence of cancer of these structures has not kept pace with that of lung cancer. It has been shown that the carcinogenic factor in cigarette smoke is relatively mild (Bogen[3]). Certain tars isolated from cigarette smoke have produced skin cancer in mice. This, however, is not considered conclusive evidence that cigarette smoke contains a substance capable of producing cancer of the lung in man. These are some of the considerations which suggest that by no means are all cases of cancer of the lung due to cigarette smoking. Can it be that the relationship between cancer of the lung and cigarette smoking is coincidental?

Otolaryngologists should be acquainted with the effects of smoking and should have some knowledge of the various brands of cigarettes and filters.

While much has been printed and broadcast concerning the effects of cigarette smoking on the nose and sinuses, it is important to recognize that these structures are rarely significantly affected by this act. Only if a smoker deliberately and habitually exhales through the nose would the nose and sinuses show evidence of congestion. Occasionally evidence

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of allergic reaction to cigarette smoke is observed upon examination of the nasal passages.

All smokers have postnasal drip. The amount of drip varies with the type and number of cigarettes smoked, and the manner and frequency of the smoking. It is a fact, however, that the mucous secretion of the nasopharynx is affected by a single puff on the average cigarette. Convincing proof of this can be gained by a simple procedure. By using a nasopharyngoscope, it is possible to observe globules of mucus forming during the act of smoking.

It is not unusual to observe fluid in the submucous space of the uvula after heavy smoking. This edematous infiltration of the uvula is most conspicuous along its periphery. Increased vascularity and firmness of the uvula also is observed often in persons who have been smoking heavily for a long time. When affected acutely by the irritation of cigarette smoke, the blood vessels of the uvula become longer and dilated. Of interest also is the fact that after the smoking of most brands of cigarettes there is an increase in the number and size of the branches of the largest visible vessel. These observations must be made immediately after the smoking is done, for the blood vessels return to normal in 30 to 90 seconds.

The pharynx seems to be spared in a majority of smokers. As a rule, only persons who smoke two or more packages a day present increased redness of the posterior pharyngeal wall.

The larynx frequently shows anything from mild infection to tumor formation in heavy smokers. Hoarseness will appear in many of those who smoke excessively and who may be susceptible to the irritation of cigarette smoke. In 1950 the author described a condition of one or both vocal cords which was due to excessive smoking. This condition is known as "smoker's larynx";[10] its first manifestation is localized edema of one of the vocal cords, the sole symptom of which is hoarseness. If the patient stops smoking and rests his voice, the edema will disappear within 24 hours. If, however, he continues to smoke, fibrous tissue will be added to the edema so that the factor of permanency will be established. The lesion becomes an edematous fibroma. If smoking is continued, the other cord will be similarly affected. Since the edematous fibroma is permanent and no longer reversible, it must be removed as would any benign tumor. Among 180 cases of smoker's larynx observed by the author, all but 15 were in males. A great majority of the patients smoked two or more packages a day; only four smoked one package daily. The symptoms of edematous fibroma are hoarseness and vocal fatigue, the same that occur as a result of any small tumor of the vocal cord.

The author has carried out bronchoscopic examination of several patients immediately after they smoked a cigarette. Except for slight hyperemia of the trachea in one patient, nothing significant was seen.

Cough is encountered frequently among cigarette smokers. In a majority of cases it occurs upon awakening in the morning. This symptom is probably caused by localized edema or by accumulation of mucus in the trachea, or both. In persons who smoke very heavily, chronic bronchitis and even bronchiectasis can be traced to the smoking habit. In a number of cases observed by the author cough due to smoking abated when the patient switched to one of the filter-tipped cigarettes.

The irritation caused by the smoke of a cigarette bears a direct relation to the volume and density of the smoke that is generated. The volume and density increase with each puff; the shorter the cigarette becomes, the greater will be the volume and density of the smoke, and the greater the irritation. Filter tips, filter holders, and extra-length cigarettes favorably influence the volume and density of the smoke.

The author has been using a crude but dependable apparatus for testing cigarettes. It consists of an ear syringe to which is attached a glass Y tube. Two pieces of transparent tubing are attached to the arms of the Y tube. Into one end is placed a lighted cigarette; the other end is open. Since the volume of the syringe and the tubes through which the smoke passes is constant for each cigarette tested, a fairly accurate idea may be gained concerning the volume and density of the smoke that is generated by various types or brands of cigarettes. By compressing the open tube and pulling on the plunger of the syringe, smoke is drawn into the chamber of the syringe. The smoke is expelled by compressing the tubing which leads to the cigarette, while the other tube is left open. The distance from the butt end of the cigarette to the tip of the syringe is approximately seven inches, the same as that between the lips and the vocal cords of an adult.

The results of the clinical and laboratory tests carried out by the author were in accord with the results of the studies reported by the laboratories of the American Medical Association.[1] The results were in agreement as to which type of filter-tipped cigarettes and filter holders were most effective in reducing the stream of smoke.

The factors tending to reduce irritation favorably are filter tip, filter holder, extra length, compactness of tobacco and relatively high moisture content in tobacco. The factors tending to increase irritation are intensity of puff (inhaling), rapidity of smoking and closeness to butt.

Physicians are frequently called upon to advise patients concerning smoking. It is well to bear in mind that a great majority of patients are not psychologically and emotionally able to voluntarily reduce the number of cigarettes they smoke. If smoking is harmful to a person, he will be served best if smoking is completely interdicted. Most smokers reduce the amount they smoke for a short period, but revert to their former habit of smoking in excess.

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REFERENCES

1. American Medical Association Chemical Laboratory, a study of cigarette smoke and filters, J.A.M.A., 152:917-920, July 4, 1953.

2. Arkin, A., and Wagner, D. H.: Primary cancer of the lung. A diagnostic study of 135 cases in one year, J.A.M.A., 106:587-591, 1936.

3. Bogen, E., and Loomis, R. N.: "Tobacco tar": an experimental investigation of its alleged carcinogenic action, Am. J. Cancer, 16:1515-21, 1932.

4. Doll, R., and Hill, A. B.: Smoking and cancer of the lung, Brit. M. J., 4682:737-748, Sept. 30, 1950.

5. Dorn, H. F.: Illness from cancer in the U. S., Pub. Health Rep., 59:33-48, 65-77, 97-115, 1944.

6. Hueper, W. C.: Lung cancer and the tobacco smoking habit, Ind. Med. and Surg., 23:13-19, Jan. 1954.

7. Lindskog, G. E.: Cancer of the lung, Conn. M. J., 12:1091-1095, 1948.

8. Lindskog, G. E., and Bloomer, W. E.: Bronchogenic carcinoma, comparison of two consecutive series of 100 cases each, Cancer, 1:234-237, 1948.

9. Mills, C. A., and Porter, M. M.: Tobacco smoking habits and cancer of the mouth and respiratory system, Cancer Research, 10:539-542, 1950.

10. Myerson, M. C.: Smoker's larynx, a clinical pathological entity, Ann. Otol., Rhinol. and Laryng., June 1950.

11. Ochsner, A., and DeBakey, M.: Carcinoma of the lung, Arch. Surg., 42:209, 1941.

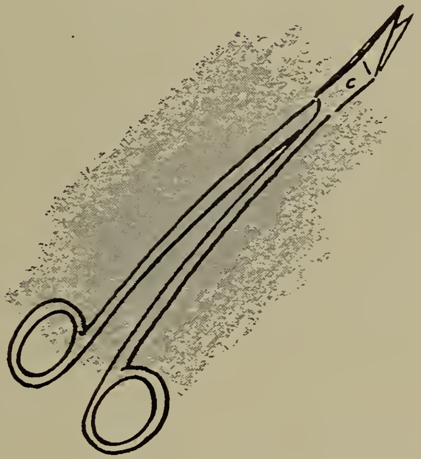
12. Ochsner, A., and DeBakey, M.: Primary carcinoma of the lung, J.A.M.A., 135:321, 1947.

13. Rigdon, R. H., and Kirchoff, H.: A consideration of some of the theories relative to the etiology and incidence of lung cancer, Texas Rep. on Biol. and Med., 10:76, 1952.

14. Schrek, R., Baker, L. A., Ballard, G. P., and Dolgoff, S.: Tobacco smoking as an etiological factor in disease, Cancer Research, 10:49-58, 1950.

15. Waldbott, G. L.: Smoker's respiratory syndrome, a clinical entity, J.A.M.A., 152:1390-1400, April 18, 1953.

16. Wynder, E. L., and Graham, E. A.: Tobacco smoking as a possible etiological factor in bronchogenic carcinoma, J.A.M.A., 143:329-338, May 27, 1950.



Absence of Coronary Thrombosis in Navajo Indians

JARVEY GILBERT, M.D., Burbank

• *No proved case of coronary thrombosis was present among 10,267 admissions of full-blooded Navajos at the Navajo Medical Center in the years 1949-52. There were 125 cases of gallbladder disease in the same period.*

Questioning of 100 patients elicited that the diets of many had an average or even high amount of cholesterol in them.

It was concluded that heredity is probably the most important factor in the prevention of coronary thrombosis in this select group.

WHILE MOST medical investigations deal with the presence of a disease, the present study deals with the absence of one—namely, coronary thrombosis.

In the course of a year of practicing medicine on the Navajo Indian Reservation in Arizona, where about 70,000 Navajo Indians live, the author noted that none of the patients he examined complained of typical anginal pain. Patients had pain in the chest from other causes but not from coronary artery disease.

The hospital records at the Navajo Medical Center, a general hospital, were reviewed for the years 1949-52, inclusive, and it was found that there were only five cases in which a diagnosis of coronary heart disease was made in a full-blooded Navajo. During that period there were 10,267 admissions of Navajos to this hospital. In none of the five cases of supposed coronary thrombosis (in which all the patients died) was autopsy done and in none was there electrocardiographic evidence of coronary disease. The diagnosis was made clinically only. Two of the patients, one 72 years of age and the other 80, died within 24 hours after admission, and coronary thrombosis was suspected but not proved. One other patient had syphilis and syphilitic heart disease. Two other patients died suddenly, and coronary disease was suspected. Therefore, there were no proved cases of coronary thrombosis during this four-year period and only five suspected cases among over 10,000 admissions to this general hospital. During this same period there were 60,405 out-patient visits and no case of coronary thrombosis.

Hospital records were also reviewed for the same period at St. Joseph's Hospital in Albuquerque, New Mexico, about 150 miles from the Navajo Medical Center. The number of admissions there, mostly of white persons, was 20,289, about twice the number at the Navajo Medical Center. There were, however, 146 cases of coronary thrombosis among them.

The Navajo people live to ages at which coronary artery disease develops in other persons (Table 1). Statistics from the Department of Interior show 10.4 per cent of the Navajo Indians are over 50 years of age, and 2.5 per cent over 70 years of age. The percentages of persons in the various age groups of the Navajos in general are comparable with the percentages in these age groups seen at the Medical Center.

A good deal has been written about the role of diet, particularly as related to cholesterol and fat intake, in the genesis of atherosclerosis.

Many Navajos eat the usual American diet with an average cholesterol intake. Many of the Navajo hospital workers eat normal diets. Many of the Navajos spend their childhood and adolescent years at boarding school eating normal diets. And many tuberculous patients have been hospitalized for years and have been given normal diets with average cholesterol intake. Several thousand served in the Armed Forces and ate normal diets.

Table 2 is a compilation of answers to a diet questionnaire given to 100 full-blooded Navajo patients. (No attempt was made to determine an "average" Navajo diet.) Patients were asked at what frequency they ate certain high-cholesterol foods. Of the 100, whose ages range from 25 to 80, 63 per cent were over 40 years of age and 33 per cent were over 50 years of age.

Some investigators believe that a low caloric intake or a starvation diet will prevent coronary disease. It is almost impossible to measure the caloric intake among the Navajos except in institutions. However, a study of the heights and weights of this group, although not perfect, is a good index of caloric intake. One hundred male out-patients over 30 years of age were measured and weighed with their clothes on. The average weight was 159 pounds with a variation from 102 pounds to 275 pounds. The average height was 67.45 inches with a range from 60 to 75 inches. The average weight of 100 females over 30 was 147 pounds, and the range was from 101 to 220 pounds. The average height for females was 62 inches and the range 58 to 67 inches.

Adelsburg and Zah,[1] studying 50 persons less than 46 years of age who died of coronary artery occlu-

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From the Navajo Medical Center, Fort Defiance, Ariz.

Presented before a Joint Meeting of the Section on General Medicine of the California Medical Association and the California Heart Association at the 83rd Annual Session of the California Medical Association, Los Angeles, May 9-13, 1954.

TABLE 1.—*Data on age and sex of Navajos admitted to Navajo Medical Center 1949-1952*

	Sex			Ages			
Year	Male	Female	Total	1-19	20-49	50 and Over	Total
1949	1,064	1,371	2,435	1,151 (47.3%)	996 (40.9%)	288 (11.8%)	2,435
1950	1,431	1,709	3,140	1,582 (50.3%)	1,159 (37.0%)	399 (12.7%)	3,140
1951	1,174	1,527	2,701	1,343 (49.7%)	1,043 (38.6%)	315 (11.5%)	2,701
1952	768	1,223	1,991	886 (44.5%)	874 (43.8%)	231 (11.7%)	1,991

sion, found a striking familial occurrence. They also believed that a hereditary disturbance of lipid metabolism may be considered a predisposing factor in the genesis of some forms of atherosclerosis.

White[7] noted that in 27 per cent of the cases of a group of young patients who had coronary thrombosis, there was a history of coronary disease in one or both parents, whereas in a control group only 14 per cent had a similar history.

The *absence* of coronary disease among the Navajos suggests a strong hereditary factor.

During the period covered by this study (1949-52) a diagnosis of cholelithiasis or cholecystitis was made in 125 patients admitted to the same hospital. Thirty-five were males and 90 females. The diagnosis was confirmed by operation in 45 cases and made clinically or roentgenographically in the remainder. It was concluded that gallbladder disease is prevalent among the Navajos.

Joslin, among others, pointed out that the association of diseases of the gallbladder and coronary disease is striking. He also concluded that an excess of fat in the diet of diabetic persons may lead to the formation of gallstones. Beon[2] in 1937 attempted to show that cholelithiasis is due to some disturbance in the lipoid-cholesterol metabolism, which may also be at fault in atherosclerosis. Many observers believe gallbladder disease may damage the myocardium and thereby initiate changes in the coronary vessels. It has been shown that a high percentage of gallstones are composed of cholesterol.

In over 1,400 necropsies Breyfogle[3] noted a positive association between gallbladder disease and coronary disease when coronary disease was the direct cause of death.

Tenant and Zimmerman[6] in 1,600 autopsies found a significant association between heart disease in general and gallbladder disease. Miller[4] in 1932 noted that coronary thrombosis occurred more frequently in the presence of gallbladder disease. Schwartz and Herman[5] noted that cardiac disease was higher in the presence of cholecystitis.

It is fairly generally accepted that there is a relationship between gallbladder disease and coronary artery disease. Yet at the Navajo Medical Center no relationship was noted between these two diseases. There was absence of coronary disease and prevalence of gallbladder disease in this select group.

It is logical to assume that persons who will seek medical care for gallbladder pain would also seek care for pain of coronary occlusion, and as only a small proportion of persons die following a first coronary occlusion, these people, if they had had pain from coronary disease, would live long enough to seek medical care.

TABLE 2.—*Frequency of ingestion of some high-cholesterol foods by Navajos (as determined by questioning 100 patients in hospital)*

Food	Twice a Day or More	Daily or More	At Least Twice Per Week
Meat	20%	45%	66%
Lard	39%	76%	84%
Eggs	1%	17%	41%
Butter	2%	11%	21%
Milk	9%	32%	41%

Why do full-blooded Navajo Indians not have coronary disease? No definite answer can be given to this question. One would expect to see some coronary occlusion among so large a group of people if heredity were not an important factor. It is known that some animals can on any diet keep cholesterol levels down. No one has shown a direct relationship between cholesterol and atherosclerosis, and hypercholesteremia is not essential for the development of atherosclerosis in man.

From this study one can possibly feel that a constitutional or hereditary predisposition must be present for the formation of atherosclerotic disease —that the individual must be susceptible. The Navajo, it may be conjectured, is not susceptible, can eat anything and can live any way he wishes, and will not get coronary artery disease.

Navajos almost never become bald. They have practically no hair on the chest or the sides of the face. They are different outwardly, probably because of heredity, and probably are also different inwardly.

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REFERENCES

1. Adelsburg and Zah: J. Am. Heart Assn., 3:473-75, Sept. 1950.

2. Beon, W. B.: Infarction of the heart, Am. Heart. J., 14:684-702, Dec. 1937.

3. Breyfogle, H. S.: J.A.M.A., 15:1434-37, April 13, 1940.

4. Miller, C. H.: Gallbladder and cardiac pain, Lancet, 1:767-772.

5. Schwartz, M., and Herman, A.: Association of cholecystitis with cardiac affectations, Ann. Int. Med., 4:783-794, Jan. 1931.

6. Tenant, R. Jr., and Zimmerman, H. M.: Association between diseases in the gallbladder and in the heart as evidenced at autopsy, Yale J. Biol. and Med., 3:495-503, July 1931.

7. White, P.: U. S. Armed Forces M. J., March 1951, No. 3.

X-ray, Malpractice and the Garrulous Physician

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FOR SOME UNKNOWN REASON, many physicians feel that they must know all of medicine. So many physicians dread the phrase, "I don't know," so avidly that it has fallen from their lexicon due to atrophy of disuse. When a malpractice suit arises, we all suffer by lowered respect for the only truly ethical profession, business or trade in the world today. Also, we are damaged by increased malpractice insurance premiums and by increased temptation to patients to file such actions. While it is agreed that the patient damaged by negligence of a physician should be entitled to recover just damages, all experts agree that most suits are filed unjustly.

Furthermore, most malpractice actions stem from statements by other physicians. Those authorities who are charitable blame such incidents on a raised eyebrow or a quizzical look. It might be better to place the blame squarely where it belongs—on definite statements made by physicians on subjects of which they know little or nothing. Some use this technique to impress the patient with their own ability and greatness.

Today I received a letter from a surgeon. He states that he is now treating one of my former patients. In writing, he blames jaundice that he claims that the patient developed on x-ray therapy administered to the patient's lip for a localized plaque of leukoplakia. Although he suggested a new etiology for icterus, the surgeon failed to enrich medical knowledge by an explanation of the mechanism of this occurrence. However, this is not as unusual as one might think. According to statements I have heard, x-ray has been blamed for everything from miscarriages to twins.

Other sad happenings come to mind. A patient with lichen planus of the lip received one x-ray treatment of 60r units with a half-value layer of 0.67 mm. of aluminum. Unfortunately, the lichen planus spread into her mouth. Three dentists and a general practitioner made unequivocal diagnoses of an "x-ray burn" of the mouth to the patient. If the patient had been approached by an unscrupulous attorney, an irritating law suit might have developed.

Another patient received three weekly treatments for psoriasis of the scalp of 60r each with the same factors mentioned previously. Conjunctivitis developed several weeks later. He had no difficulty inducing lawyer after lawyer to take the case as soon as he mentioned x-ray treatments.

The reason for mentioning these incidents, experiences which are all too common to all dermatologists, is to introduce an explanation of the dangers of x-ray therapy. X-rays can cause burns. Chronic radiodermatitis can lead to the development of squamous-cell cancers. Most dermatologists practicing in the first decade of this century developed radiodermatitis themselves. Many of the pioneer dermatologists have been deformed by exposure to these rays and by the plastic procedures used to eliminate these dangerous hazards to life. Some of these men died from the harmful effects of radiation. Recently, I saw a patient die from malignant degeneration in radiodermatitis—the x-ray having been administered for psoriasis, a truly benign dermatosis. Dermatologists see more x-ray dermatitis than all the rest of physicians put together. No one is more cognizant of the dangers inherent in these rays. Yet, it should be remembered that dermatologists give more superficial x-ray therapy than the remainder of the medical profession.

No one refuses to ride in an automobile today because of the possibility of accidents. Knowledge and familiarity have established the safety of such vehicles if they are handled carefully. The reader can be assured that x-ray therapy is much safer than driving an automobile and the safety factors are much greater.

There is no medicine that cannot do harm. The minimum lethal dose of most agents is established before they are placed on the market. In other words, if enough of one of these medications is administered, death will result. However, the margin between the therapeutic and lethal dose, known as the therapeutic index, may be great. While two aspirin tablets may relieve a headache, thirty would probably kill a patient. Why, then, should the potential dangers of x-ray treatments be given more attention than the toxicity of aspirin? Actually, x-ray is much safer than aspirin. A patient with hypersensitivity to salicylates might die from a single tablet of aspirin. This does not occur with radiotherapy. While tolerance varies, there is no real idiosyncrasy to roentgen rays.

X-rays are carefully measured. The machines have many safeguards built into them. The modern machines are shock-proof. They have automatic timers. The tolerated dose is well known. No one gets an x-ray burn from 50 to 100r units. The amount that will cause radiodermatitis is not ap-

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proached by the careful dermatologist or radiologist unless he is treating a malignant lesion. I have not seen radiodermatitis produced by a dermatologist in the past 15 years. Sulzberger[1] and his coworkers have shown that dermatologic dosage does not produce skin cancers even 25 years later.

Another point that should be remembered by the garrulous physician is that x-ray dermatitis can be diagnosed accurately both clinically and histologically. Therefore, if he makes such a diagnosis without adequate reason, he may find himself in court looking very very stupid in the eyes of patient, lawyer, jury and, even more important, his colleagues. Dermatitis may be due to locally applied medication. A scar may be due to biopsy or to trauma. Neither have the important connotations of an x-ray burn.

Legal complications have limited the value of x-ray therapy. The patient may resist its use. Many physicians fear x-ray treatments more than they do the Communists. I am told that x-ray epilation is shunned by dermatologists in Los Angeles for legal reasons despite the general acceptance that x-ray is the safest, quickest and surest method of treating tinea capitis. The infected child suffers because of the thoughtless statements of ignorant physicians, frightened patients and grasping lawyers.

While the popular lay "medical" writer has done a great deal to produce this pathologic fear of x-rays, medical schools must shoulder their part of the blame. They rightly stress the dangers of this modality but fail to emphasize the safety of this agent when administered by experienced experts with clinical judgment.

Therefore, remember that x-ray therapy is not the invention of the devil. Roentgen and Curie must be revolving rapidly in their graves if they know the appreciation given to their discoveries. It is the most valuable tool known for the treatment of dermatologic conditions. It is safe in the hands of an expert. If you think that a patient has been harmed by x-rays, better get a consultation before you start diagnosing and talking. It will save *you,* as well as the radiologist or dermatologist a great deal of unwarranted trouble.

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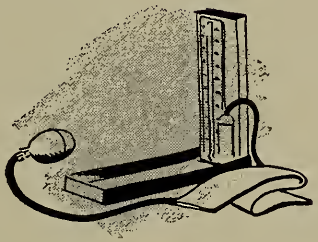
REFERENCE

1. Sulzberger, M. B., Baer, R. L., and Borota, A.: Do roentgen ray treatments as given by skin specialists produce cancer or other sequelae? Arch. Dermat. and Syph., 65:639, June 1952.



Cardiac Screening Procedures

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- *Seven per cent of a sample group of civil service employees were found to have diagnosable heart disease. The diagnosis was made on the basis of a complete physical examination and history taken by a specialist in internal medicine and/or heart disease. In addition a questionnaire form related to symptoms of heart disease was filled out by the patient, and various laboratory tests were made.*

As a technique in cardiac case-finding, the electrocardiogram was the best single device. Of all the cases of heart disease in this survey 65 per cent were detected from tracings obtained by using all 12 leads, and 57 per cent if only the three standard limb leads were taken; but of the presumably normal persons, 13 per cent would be erroneously suspected of possible heart disease by this technique.

Heart disease was detected in 50 per cent of the diagnosed cases on the basis of answers to three of the questions in the questionnaire. Eighteen per cent of normal persons would also have been suspected of having heart disease by this case-finding device.

Although the survey reported did not develop a simple cardiac case-finding technique, the data presented indicated that a questionnaire history-form, if judiciously used and evaluated, may be of value to physicians who examine large numbers of patients who are unwilling to submit to a complete cardiac evaluation.

During the past five years the Los Angeles City Health Department has been conducting a Cardiac Case-Finding Program among Los Angeles City employees. The program embraced examination of 2,252 persons (1,859 men and 393 women) taken at random from the city payroll. The mean age of the subjects at the beginning of the study was 43.7 years. There were only 327 persons under the age of 30. To date the employees in the group have been subjected to three complete examinations spaced 12 to 18 months apart. The examinations were done by competent cardiologists and internists. Each person was examined by at least two different physicians over the years. The third examination has just been completed and the data are not completely compiled as yet.

There were many facets to the cardiac survey program. One purpose was to determine the most practical means, suitable for mass application, for the detection of heart disease. The primary purpose of all screening tests is to bring persons with disease to their physicians at an early stage and thus aid in the prevention of disabling complications. Although cardiac case-finding programs have been criticized on the grounds that too little can be done for patients with recognizable heart disease, the day may be near when effective measures for control and prevention of progressive heart disease will be available to all practitioners of medicine. The purpose of this report is to present, in a preliminary form, some of the results, difficulties and successes in the search by the Los Angeles City Health Department for a simple, effective cardiac case-finding technique.

Each subject on the survey answered a questionnaire as to history of symptoms associated with heart disease and was then seen by a physician who obtained a medical history. Complete physical examination (excluding rectal and pelvic) was made. Each person was subjected to the following tests: (1) a 12- or 13-lead electrocardiogram, (2) fluoroscopic examination of the chest, (3) electrokymogram, (4) 70 mm. minifilm of the chest, (5) determination of the vital capacity of the lungs, (6) urinalysis, (7) complete blood cell count, (8) sedimentation rate, (9) hematocrit, (10) serologic test for syphilis, (11) serum cholesterol, and (12) blood-sugar content (fasting). In addition, serum lipoprotein determinations on all persons 40 years of age and older were made by Dr. John Gofman at the University of California. Through the courtesy of Dr. Paul Starr of the University of Southern California, at least one protein-bound iodine determination was made for each subject. All observations were recorded on International Business Machine cards for statistical tabulation. The results of the first examination have been reported elsewhere.[1]

It was surprising to note, upon first examination, that 7.2 per cent of the subjects had demonstrable heart disease. Only one third of these patients had previous knowledge of their heart disease. In the subsequent examinations the percentage was practically the same (7.25 per cent). There was an 8 per cent decrease in the number of subjects between

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examinations, due to deaths, refusals to return and failure to locate individuals. Nevertheless, the percentage of heart disease remained constant each time because of the development of new cases between examinations. In all the examinations approximately 4 per cent of the subjects were classified as having "potential" heart disease or "possible" heart disease.

Hypertensive heart disease was the most common type (approximately 45 per cent of all cases). Coronary arteriosclerotic was next, comprising approximately 40 per cent. Third was rheumatic heart disease—about 15 per cent. Occasional cases of syphilitic heart disease, chronic cor pulmonale and congenital heart disease were diagnosed. In addition, there was a group of ten patients with pericarditis[2] and five patients with cardiomegaly without demonstrable cause.

RESULTS WITH VARIOUS TECHNIQUES

The blood tests, urinalysis and vital capacity determinations did not contribute to cardiac case-finding. A preliminary analysis of the patients with cardiac disease who had the Gofman lipoprotein determinations was inconclusive but suggested that there is no significant difference between the mean levels of the lipoproteins in persons with heart disease and those without.

In approximately 80 per cent of the cases in which heart disease was diagnosed, suspicion of heart disease was aroused by patients' answers to the previously mentioned questionnaire history-form. Ninety-four per cent of those with coronary arteriosclerotic heart disease, 60 per cent of those with rheumatic heart disease and 52 per cent of those with hypertensive heart disease had a "positive" history. Of those in whom heart disease was diagnosed, 33.7 per cent had previous knowledge that they had heart disease. Omitting these cases, the history-form was indicative of heart disease in only 62 per cent of the cases diagnosed. However, 31 per cent of the subjects without heart disease also answered one or more questions "positively." The large number of apparently "false-positives" would make such a screening technique invalid. Analysis of the individual questions suggests that three of them, as a unit, are reasonably sensitive and specific. This raises the possibility that further experience with questionnaire histories may develop additional sensitive and specific questions.

The following questions were asked at the time of the first examination: The first question, "Can you walk a reasonable distance out of doors without trouble?" was insensitive. Only 7.5 per cent of patients with cardiac disease and 1.3 per cent of presumably normal patients answered "no" to this question.

The second question, "Do you ever have distress, pain or an uncomfortable feeling in the chest while walking on the street or up inclines or steps?" was answered "yes" by 33.3 per cent of patients with cardiac disease and by 4.5 per cent of apparently normal persons.

Question Three, "While walking, are you forced to stop in order to rest?" was answered "yes" by 20 per cent of patients with cardiac disease and 2.8 per cent of normal persons.

Question Four, "Have you noticed increasing or undue shortness of breath with exertion?" was answered "yes" by 44 per cent of persons with heart disease and by 17 per cent of normal persons. The value of this question was depreciated by the large number of "false-positives." It was of interest that the percentage of affirmative answers to this question increased with age. Thirty-three per cent of all persons over 60 years of age, 27 per cent between 50 and 59 years, 19 per cent between 40 and 49 years, 12 per cent between 30 and 39 years and 8 per cent between 20 and 29 years answered "yes." Comparing these figures with percentages of diagnosed heart disease, it was clear that the percentage of false-positive answers to Question Four was highest in persons over 39 years of age. Hence, a history of increasing shortness of breath is more important as a screening device in the younger age groups.

Question Five, "Is your sleep disturbed because of coughing spells, difficulty in breathing when lying flat, asthmatic attacks, or choking sensation in the chest?" was insensitive and nonspecific. Only 6 per cent of patients with heart disease answered this question affirmatively.

Question Six, "Have you ever had palpitation of the heart?" was also of little value. Of the patients with heart disease, 25.6 per cent answered "yes" while 10.8 per cent of normal persons also answered "yes."

Question Seven, "Are your ankles swollen at bedtime?" was of no value in this survey. Of the patients with cardiac disease, only 8.8 per cent answered "yes," and 4.2 per cent of the normal subjects also answered "yes."

Analysis of questions 2, 3 and 4 showed that as a group, 50 per cent of the subjects with heart disease answered one or more of these questions affirmatively and that 18 per cent of the presumably normal persons also gave a "positive" answer. In summary, while the history-form relative to symptoms of cardiac disease assisted in the diagnosis of 62.5 per cent of the cases of heart disease diagnosed, 31 per cent of "normal" persons would have been suspect also. Questions 2, 3 and 4, as a group, reduced the false-positives from 31 per cent to 18 per cent but also reduced the true positives from 62 per cent to 50 per cent. In the second and third examinations, questions 2, 3 and 4, as a group, showed comparable results.

At each examination the number of abnormal electrocardiograms was slightly more than 400; the range was from 410 to 420. In all three examinations the electrocardiogram was diagnostic or suggestive of heart disease in approximately 65 per cent of the patients with heart disease. In each examination approximately 13 per cent of presumably normal persons had abnormal electrocardiograms. If only the three standard limb leads were interpreted, the sensitivity of the electrocardiogram in case-finding would have been reduced to approximately 57 per cent. This indicates that the three standard limb leads alone have some value in case-finding in mass screening programs.

The electrocardiogram and the history-form did not "detect" cases of the same type. The electrocardiogram was most valuable in detecting hypertensive heart disease; the history-form was best in detecting coronary arteriosclerotic heart disease. The three questions (items 2, 3 and 4 in the questionnaire history-form) plus the three standard limb leads of the electrocardiogram "detected" 92 per cent of all cases, but 35 per cent of normal persons had either abnormalities in the three standard lead electrocardiogram or gave a "positive" answer to one of the three questions.

The electrokymogram and the minifilm were of no value in detecting heart disease. The questionnaire, physical examination, electrocardiogram and fluoroscopy contributed about equally to the diagnosis. The physical examination and fluoroscopy were also free from "false-positives." However, these two techniques (physical examination and fluoroscopy performed by specialists) are not suitable for mass screening in the detection of heart disease. Furthermore, they are insensitive in the detection of coronary arteriosclerotic heart disease, which is of rather high incidence in the adult population and which constituted approximately 40 per cent of the cases in the present series.

It is clear that an effective screening program for the detection of heart disease has not been devised as yet. The present study indicated that if only the three-lead electrocardiogram were used, only 57 per cent of cases of heart disease would be detected, while at least 13 per cent of normal persons would be erroneously suspected of heart disease. If only the questions 2, 3 and 4 of the history form were used, 50 per cent of cases would be detected while 18 per cent of normal persons would be suspected of possible heart disease. If both the three-question history form and the three-lead electrocardiogram were used, 92 per cent of cases of heart disease would be diagnosed but more than one-third of normal persons would also be suspect. However, this report may be of value to general practitioners, industrial physicians and others who examine large numbers of patients for specific problems not related to heart disease. Often such patients are unwilling to submit to a cardiac evaluation, which of necessity includes a complete history and physical examination. Perhaps a questionnaire history-form could be utilized by such practitioners to detect at least a significant fraction of cases of heart disease among their presumably well patients. Such screening devices must be controlled and understood by the physicians using them. Otherwise more harm than good will come of them because of the large number of false-positives. Any screening technique, and especially any for heart disease, is fraught with the danger of inducing iatrogenic disease.

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REFERENCES

1. Phillips, E., Chapman, J. M., and Goerke, L. S.: Relative values of techniques used in detection of heart disease, Am. Heart J., 45:319-330, March 1953.

2. Phillips, E., and Glickman, M.: Asymptomatic nonspecific pericarditis, Ann. West. Med. and Surg., 6:279-285, May 1952.

CASE REPORTS

Radioactive Iodine Therapy in Euthyroid Cardiac Patient

With Previous Mitral Commissurotomy

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THE PROBLEM OF TREATING a patient with rheumatic heart disease and intractable cardiac failure and embolization was met first by mitral commissurotomy, appendagectomy and evacuation of the auricular clots. But the end results of mitral commissurotomy are not always successful, even though the clinical reasons for performing it are valid. Although the threat of further embolic phenomena was abated by this surgical procedure, fracturing the tight stenotic valve did not improve the clinical status of the patient. Therefore, radioactive iodine was employed to reduce the patient to relative hypothyroidism in an endeavor to control the persistent right and left ventricular failure. The successful use of radioactive iodine in patients with severe cardiac disease whose thyroid function is normal has already been the subject of previous reports,[1-6] and experience in this form of therapy is increasing. The case reported here is unique in that two major cardiac procedures were combined, for the first time, to rehabilitate a cardiac cripple.

REPORT OF A CASE

The patient, a Caucasian woman, was first observed in April 1945, when her age was 42 years. In her history were recurrent tonsillitis in childhood and hemorrhoidectomy in 1933. For as long as she could remember she had had aerophagia with resultant belching, worse in recent weeks. The menstrual periods were normal, and there had been no menopausal symptoms other than nervousness for some two years. The basal metabolic rate was reported as —10 and —8. An electrocardiogram was within normal limits except for a prolonged QRST wave.

The patient was next seen in March 1947 with complaint of nervousness and of tightness and pain in the throat, radiating to the ears. The blood pressure was 140/80 mm. of mercury. The heart appeared normal. The body weight was 183 pounds, and the patient was put on a 1,000 calorie diet. Vitamin B complex and a half tablet of Dexedrine® twice daily were prescribed.

Five days later during an office visit, she complained of the same symptoms, plus a thumping in the throat which could be initiated by effort. The pulse and apical rate were grossly irregular, and an electrocardiogram showed auricular fibrillation with an apical rate of 130 to 150. The blood pressure was essentially unchanged from the previous week. Pressure on the carotid sinus slowed the rate but did not convert the rhythm. The circulation time of Macasol® was 30 seconds arm-to-tongue and 50 seconds arm-to-hand. Therapy was continued as before, and when examined a few days later the patient had sinus rhythm. In a roentgenogram of the chest the cardiac silhouette was normal. The basal metabolism rate was —13 and —10.

Fibrillation recurred toward the end of April 1947, and the patient was admitted to the hospital April 28. Quinidine given before hospitalization aborted the attack. On admission, the rhythm was sinus with occasional extra systoles, but there were systolic murmurs at the mitral and pulmonary areas, the latter being transmitted down the left sternal border. The lungs were clear, but, on inspiration, the edge of the liver was felt. There was no peripheral edema. An x-ray film of the chest showed moderate cardiac enlargement and a mitral configuration. In the gastric analysis, only absence of free acid was notable. Results of routine blood examination and urinalysis were normal. An upper gastrointestinal series, examination with barium enema and an intravenous pyelogram were all normal. Bromsulfalein retention was 17 per cent. Plasma protein bound iodine was 5.4 micrograms per 100 cc. of blood, and the basal metabolism rate was —3 and —7. The condition was diagnosed as paroxysmal auricular fibrillation caused by rheumatic heart disease.

A year later, in April 1948, the patient was hospitalized again, with complaint of rapid irregular pounding of the heart and throbbing in the neck. The rhythm on admission was sinus, however, and the electrocardiograph recorded right axis deviation, auricular hypertrophy and Grade I heart block (P-R, 0.20). An x-ray film of the chest showed that the heart had enlarged somewhat since the film taken a year before. Mitral configuration was still present, and in addition some passive pulmonary

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congestion was noted. The edge of the liver was palpated one finger breadth below the costal margin. The lungs remained clear and there was no edema at the ankles. The patient was digitalized with Digitoxin® and a maintenance dose of 0.2 mg. daily was administered, as it was felt that steady fibrillation could be maintained better with Digitoxin than with quinidine, for repeated efforts to maintain conversion increased the discomfort. After she left the hospital, she was treated with Belladenal® and Amniotin.®

With this medication the patient got along fairly well until June 1948, at which time an episode of numbness and pain in both legs occurred, worse on the right, and leg pulses were absent. The diagnosis was embolus at the bifurcation with propagation or extension down the right extremity. Hospitalized again, the patient was treated with papaverine, morphine, dicoumarin and right lumbar sympathetic block. Response was good, particularly to the latter procedure, and when the patient was sent home after six days, there was return of some pulsation to the right ankle. At home she was maintained on dicoumarin, Pitkin's menstruum and Buerger's exercises.

In September 1948 cough developed and a roentgenogram showed much pulmonary congestion and increased bronchial markings. Administration of Mercuhydrin® was started and the patient continued to take it, along with crude liver, until January 1949, when a switch was made to Belladenal, phenobarbital and a salt-free diet.

An x-ray film of the chest in October 1949 showed some further increase in the size of the heart. The hemoglobin value in the blood was 64 per cent. Ferrous sulfate was given, caused gastrointestinal upset, and was discontinued. Treatment was continued with Mercuhydrin and crude liver.

In January 1950 the liver was noted to be huge, in spite of all therapy. At about this time prolongation of menses developed. Since there was much pelvic tenderness, the patient was admitted to the hospital and had dilatation, curettage and laparotomy. A right intraligamentary fibroid tumor (8 to 9 cm.) was found embedded deep to the right of the cul-de-sac and was removed. Supracervical hysterectomy also was done. The heart, when percussed, was noted to be enlarged and there was an apical systolic murmur. The edge of the liver was felt five fingerbreadths below the costal margin. As the hemoglobin content of the blood was 10.7 gm. per 100 cc. (69 per cent) a transfusion of 500 cc. of blood was given. In the electrocardiogram impure flutter and right axis shift were found, and an x-ray film of the chest showed considerable cardiac enlargement with mitral configuration and moderate passive pulmonary hyperemia. The transverse diameter of the heart, which had been 15.7 cm. in 1947 and 16.4 cm. in 1948, was 18.2 cm. Treated with digitoxin, Belladenal, Mercuhydrin, Thiomerin® and a low salt diet, the patient responded fairly well.

When she left the hospital, therapy was resumed with Mercuhydrin, Thiomerin and Digitoxin as before and was continued until December 1950 when she was admitted to the hospital for the fifth time. She had been found semi-stuporous on the stairway in her home, without evidence of paralysis or pathological Babinski signs. She did not recall the circumstances surrounding this episode, but her mind cleared spontaneously. Cerebral embolism was considered a possibility but was not definitely established. In the hospital, on rigid dietary restriction, the body weight decreased 9 pounds to 145 pounds in three days. The opinion was that the patient had had too much work and emotional strain and that she needed the regimen of restricted diet and medication. The hemoglobin value on this admission was 76 per cent. On discharge from the hospital, Mercuhydrin was given three times weekly.

In March 1951 an ovarian cyst which had been discovered three months earlier was noticeably enlarging, and the patient was sent to the hospital for operation. An electrocardiogram taken just before admission recorded right ventricular hypertrophy, auricular fibrillation and probably incomplete right bundle branch block. The hemoglobin content was 12.5 gm. per 100 cc. (81 per cent). A multilocular interligamentous left ovarian cyst was removed.

At home the patient took Mercuhydrin, 2 cc. once or twice weekly, plus Dexamyl.® She did well until September 1951, when she had an episode of nausea and vomiting, and was treated with sedation and niacin; and regular doses of vitamin B_{12} were given.

In October 1951, a radioactive iodine uptake study showed that the patient was euthyroid, the result being 16.9 per cent—within the normal range.

In December 1951 tachycardia, a rate of about 110, was noted. The patient said she had been in generally poor condition for the preceding month. Digitalis dosage was doubled and administration of quinidine was begun. The condition of the patient deteriorated. She was admitted to the hospital three days later with a pulse rate of 135 and right heart failure. The liver was down three fingerbreadths, and she had 1 plus pitting edema at the ankles. The hemoglobin content was 10.6 gm. per 100 cc. (68 per cent). There were a few erythrocytes and leukocytes in the urine. In the hospital redigitalization was carried out after a period of omission of digitalis to make sure intoxication was not present. A diastolic murmur was heard at the apex for the first time.

The patient was discharged after five days in the hospital and at home was maintained on Mercuhydrin, occasionally given intravenously. On two occasions the patient may have suffered small embolizations.

Because of the progressively deteriorating course, regardless of therapy, it was judged that the best procedure for the patient to undergo next was mitral commissurotomy. On February 12 mitral commissurotomy with appendagectomy and evacuation of a large clot was carried out, and 1,500 cc. of blood and 300 cc. of plasma were administered.

The postoperative course was relatively benign. The only complications were a cooling and a decrease of pulses in the left leg and right arm on the day following operation. Pulses gradually returned without specific therapy, and the patient was discharged on the tenth postoperative day. The course at home was stormy. Oxygen, morphine and Demerol® were given but cardiac failure was not controlled. One months after discharge from the hospital mild jaundice developed with tremendously enlarged liver due to the pronounced cardiac failure.

The heart appeared large in a roentgenogram after operation. Persisting dullness and fluid at the left base made exact determination of the size of the heart difficult.

The condition of the patient became aggravated when jaundice developed. In April 1952 the patient was given Mercuhydrin, digitoxin, Belladenal and corticotropin (ACTH). X-ray films of the chest on April 29, 1952, showed obliteration of the left costophrenic and cardiophrenic angles and haziness in the left lower lobe. It was still difficult to tell much about the size of the heart by x-ray examination.

Toward the end of May the patient was again hospitalized for uncontrollable nausea which had begun about the time jaundice had developed. Ten days prior to this admission she had been sent to a sanitarium for the same reasons, and with the poor dietary management resulting from the nausea plus the sedation that was given for it, the heart failure had become more pronounced. She had grades II to III presacral edema and a tachycardia of 112. An electrocardiogram showed ST and T changes suggestive of drug effect or metabolic disorder. Two days after admission, fever developed. Four serial blood cultures grew no pathogenic organisms. The patient was treated with corticotropin with temporary success, and the temperature finally subsided almost to normal without the cause ever being definitely determined.

The response of the patient to commissurotomy was not so favorable as the potential response, and it was decided after this last hospital admission that she should be given a course of radioactive iodine as a euthyroid cardiac patient. Radioactive iodine therapy was started July 17 and continued to August 21, 1952, for a total dose of 30 millicuries. In the meantime Mercuhydrin, Neohydrin® and other diuretics were administered.

A test on October 21, 1952, showed that the radioactive iodine uptake was 2.58 per cent—in the hypothyroid range. However, the patient had no clinical signs of myxedema at this time. The radioactive iodine uptake, rechecked December 9, 1952, was reported 1.69 per cent—in the low range—and clinical signs of myxedema began to appear. Thyroid therapy was started and the patient was maintained on thyroid extract, in addition to the former therapeutic regimen.

Three weeks after completion of the course of radioactive iodine, the patient began to improve. Oxygen no longer was necessary, the lung fields cleared, the liver edge receded. The patient became ambulatory. The cardiac rate slowed to 70. With returning strength the patient was able to resume simple household tasks. She even drove an automobile, although this activity was frowned upon.

On March 15, 1953, the patient was admitted to the hospital with belching, salivation, nausea, retching and constipation, but it was noted that these symptoms became severe following the reading of an article on the use of radioactive iodine in the treatment of cancer. At her request a complete examination was carried out and the patient was reassured that she had no neoplastic disease. At this admission the apical rate was 74, the blood pressure 108/70 mm. of mercury, the hemoglobin 10.4 gm. (67 per cent) per 100 cc. of blood, the erythrocyte count 4,600,000 per cu. mm. and the leukocyte count 6,200. Blood urea nitrogen, chlorides, sodium potassim, total proteins, albumin and globulin were all normal. Cholesterol was in the low normal range, indicative of good control of the hypothyroidism induced by radioactive iodine. In roentgenograms, the entire gastrointestinal tract was normal, and x-ray examination of the chest showed for the first time no further increase in cardiac size.

For the next year the patient remained compensated without difficulty, made a trip to Honolulu and recovered from a bout of right middle lobe pneumonia.

COMMENT

In the five months between mitral commissurotomy and the beginning of treatment with radioactive iodine, the patient's condition progressively deteriorated. On two occasions she was not expected to live 48 hours longer. Yet, as soon as a relative hypothyroid state was brought about by radioactive iodine this patient was noticeably rehabilitated. She was not given a new heart, but two gains were accomplished. The cardiac operation removed the threat of further embolization, and the induction of hypothyroidism decreased the strain upon the badly diseased heart. At the time of last report the patient had had 19 fairly comfortable months owing to the combination of relatively new surgical and medical cardiac therapies.

SUMMARY

A case is reported of a patient severely ill with cardiac disease who improved clinically when she was treated by a combination of cardiac operation and radioactive iodine.

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REFERENCES

1. Blumgart, H. L., Freedberg, A. S., and Kurland, G. S.: Hypothyroidism produced by radioactive iodine (I^{131}) in treatment of euthyroid patients with angina pectoris and congestive heart failure, Circulation, 1:1105-1141, May, 1950.

2. Jaffe, H. L.: Multiple small dose radioiodine technic for treatment of severe cardiac disease in euthyroid patients, Ann. West. Med. & Surg., 5:916-919, Nov. 1951.

3. Jaffe, H. L., Rosenfeld, M. H., Pobirs, F. W., and Stuppy, L. J.: Radioiodine in treatment of advanced heart disease, J.A.M.A., 151:716-720, Feb. 28, 1953.

4. Pobirs, F. W.: Radioiodine treatment of euthyroid cardiac disease: Clinical course and illustrative cases, Ann. West. Med. & Surg., 5:919-922, Nov. 1951.

5. Rosenfeld, M. H.: Results obtained by treating severe cardiac disease in euthyroid patients with radioiodine, Ann. West. Med. & Surg., 5:923-925, Nov. 1951.

6. Stuppy, L. J.: Radioiodine treatment of euthyroid cardiac disease: Introduction, Ann. West. Med. & Surg., 5:913-916, Nov. 1951.

Listeria Monocytogenes Meningitis In an Infant

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FOLLOWING IS A REPORT of a case of meningitis due to an organism Listeria (Listerella) monocytogenes in an 18-day-old infant. As far as can be determined this is the forty-third such case reported in the literature.

The points of interest are the comparatively rare pathogenic agent, the presence of a deep dermoid sinus in the sacrococcygeal area as a possible site of entry of the infection, and the comparatively good general health maintained by the infant despite the seriousness of the disease.

REPORT OF A CASE

The patient was an 18-day-old female infant who was born by spontaneous vaginal delivery and weighed 8 pounds 12 ounces at birth. The neonatal course was smooth and the only finding of interest was a rather deep invagination of skin without granulation over the sacrococcygeal area. When discharged from the hospital on the seventh postpartum day the baby weighed 8 pounds 7 ounces.

She did very well at home until the eighteenth day when she became "fussy" and anorexic. Rectal temperature was 104° F. There was no convulsion, vomiting or diarrhea but the nasopharynx was inflamed. One million units of penicillin was given and the same amount on the following day, with no improvement. Mild nuchal rigidity was then noticed and spinal puncture was performed. The pressure was normal but the fluid was cloudy; it contained 1,735 leukocytes (36 per cent polymorphonuclear cells and 64 per cent lymphocytes); the sugar content was 41 mg. per 100 cc. There was a 1+ reaction to a Pandy test. Leukocytes in the blood numbered 39,550 per cu. mm. (9 per cent metamyelocytes, 24 per cent banded, 42 per cent segmented polymorphonuclear cells and 25 per cent lymphocytes). Results of urinalysis were within normal limits.

The infant was placed in oxygen and given Ringer's lactate solution by clysis containing sulfadiazine. Streptomycin was administered intramuscularly, 50 mg. every six hours; and 600,000 units of procaine penicillin was given at the same intervals. Other measures were sponge baths, daily administration of Darrow's solution by clysis and later by mouth, desoxycorticosterone acetate intramuscularly and acetylsalicylic acid. On the second day after the patient was admitted the temperature was normal and remained so during the remainder of the hospital stay. The vessels in the tympanic membranes in both ears appeared engorged. The reflexes were normal, the rigidity of the neck lessened, and the fontanelle was soft.

An organism morphologically resembling Listeria monocytogenes grew on a culture of spinal fluid and a specimen was sent to the State Bacteriology Laboratory, which confirmed the identity. The organism was sensitive to aureomycin, bacitracin, penicillin plus streptomycin, chloramphenicol, terramycin and erythromycin. It was only slightly sensitive to dihydrostreptomycin and not sensitive to polymyxin, sulfonamids or penicillin alone.

Administration of terramycin then was begun even though the patient was recovering under the therapy previously described. In a specimen of peripheral blood taken the fifth day, leukocytes numbered 17,650 per cu. mm. (4 per cent eosins, 16 per cent banded, 27 per cent segmented polymorphonuclear cells and 53 per cent lymphocytes).

A consultant who examined the deep sacrococcygeal sinus expressed the opinion that it was a deep congenital dermoid sinus and, since no exudate or granulation was present, was probably not the site of entry of the organism. He suggested the injection of indigo carmine per thecum and observation for drainage through the sinus, but this was not done at that time. No abnormality was noted in an x-ray film of the lumbosacral spine.

Seven days after entry the baby was clinically well and had been afebrile for four days. She was discharged with prescription of continuing use of terramycin.

The infant remained afebrile, ate well and gained weight but had considerable nasal mucus, rattling respirations and stridor. As congestion of the vessels of the right tympanic membrane continued, myringotomy was carried out. Hemolytic staphylococci grew on a culture of exudate from the middle ear. The stridor was due to excessive nasopharyngeal mucus and the rather persistent otitis media was finally cleared after prolonged administration of terramycin. At 11 and a half months the child was normally developed and in excellent health. The sacrococcygeal dimple remained well epithelialized and was not irritated.

THE ORGANISM

Listeria monocytogenes is the causative agent in rare cases of meningitis and in some infectious mononucleosis-like syndromes in man and in certain diseases in animals and poultry. (Incidentally the infant in the present case lived in a country home where there was a horse, a burro and a cow but no poultry.)

The bacterium is a Gram-positive bacillus, sluggishly motile with a "tumbling" or spiral movement. It is 0.5 micron in width and 1 to 2.5 microns in length and occurs singularly or in short chains.

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There is a rough and smooth colony form; it is non-spore forming and facultatively anerobic. It causes a characteristic fermentation of the various sugars and a specific antigenic structure. Infections in man and animals are world wide. Interest developed regarding the organism's possible role as a causative agent in infectious mononucleosis. At present there is no conclusive answer to this problem.

Care must be taken lest these organisms be confused with Belta hemolytic streptococci or be mistaken for diphtheroids. For specific identification, injection of the organisms into the conjunctival sac of rabbits produces severe conjunctivitis and corneal involvement.

COMMENT

The transmission of the organism from animals to man has been strongly suggested in the worldwide literature and there is reason to believe that these infections are more common than expected. It is interesting to speculate as to whether or not such infections will increase as the more common organisms are altered by antibiotics. In a number of other cases of meningitis the disease was suspected at first of being tuberculous in origin and only after extensive culture and repeated spinal puncture was it positively identified as L. monocytogenes.

In other cases reported the patients were successfully treated with chloramphenicol and streptomycin.

SUMMARY

A case of meningitis due to Listeria monocytogenes is reported. The organism should be suspected as the causative agent more often, especially in rural areas.

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REFERENCES

1. Bacterial and Mycotic Infections of Man, edited by Rene J. Dubos, Ph.D. J. B. Lippincott Co., pp. 458-460: Article on L. monocytogenes by Thomas H. Wheeler and Chas. A. Janeway, M.D., Harvard Medical School.

2. Binder, M. A., Diehl, C., Weiss, J., and Ray, H.: Listeria meningitis, Ann. Int. Med., 38:1315-1319, 1953 (contains all available references).

Pulmonary Hydatid Disease

Report of a Case

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R. LANCEY STIRRETT, *M.D.*, Pasadena

PULMONARY HYDATID DISEASE is frequently referred to in connection with cysts of the lungs. However, the condition is uncommon in this country; only 47 cases have been reported in the literature in the United States and Canada.[5] In the case herein reported the disease was correctly diagnosed preoperatively, owing to fortuitous information, and successful treatment was carried out.

The patient, a 47-year-old Russian woman who spoke very little English, was admitted to the Santa Fe Coast Lines Hospital, Los Angeles, on January 31, 1954. She had been ill for five days with cough, chills, fever and hemoptysis.

On examination it was observed that the patient was thin, poorly nourished and acutely ill. She was coughing and expectorating blood-stained purulent sputum, together with almost bright red blood. Increased vocal fremitus was noted and there was dullness to percussion over the lower part of the left side of the chest. Rales were heard in that area posteriorly and a few at the right base posteriorly.

Leukocytes numbered 7,450 per cu. mm. of blood, with 1 eosinophil reported in the differential count. The result of a serologic test for syphilis was positive. No tubercle bacilli were seen microscopically in the sputum, none grew on a culture and the result of guinea pig inoculation was negative. Cytologic examination of the sputum was carried out, and suspicion of malignant cells was reported.

Upon x-ray examination of the chest, an area of increased density in the left middle lung field was noted (Figure 1). The density was irregular in outline and the edges were not clearly demarcated. It measured some 9 cm. in its greatest diameter and was interpreted as being either a tumor or loculated interlobar fluid. Further investigation included an attempt to aspirate material from the area in question, which proved unsuccessful. Bronchoscopic examination also was carried out but nothing of significance was seen.

Penicillin was administered and symptomatic treatment was carried out. The temperature decreased from 103° F. to normal in several days, and cough and hemoptysis also diminished. However, the conditions observed in the chest upon physical and roentgen examination were not changed.

Ten days after the patient was admitted exploratory thoracotomy was scheduled. However, it was learned through the patient's son, who spoke English, that the patient had resided in Persia for a number of years; that in the course of emigrating to this country an x-ray film of the chest had been made and the patient had been told that she had "water on the lung as large as a lemon." As soon as the son gave this information, an Echinococcus skin test (Casoni) was done and the result was strongly positive. A circulatory eosinophil count gave a value of 1,500 per cu. mm. Several days later, the chest film done in Persia (Figure 2) was submitted by the son and comparison with the films at the present admission revealed a similar lesion except that the lesion as seen in the earlier film was more circumscribed, the edges were sharply delineated, and the shape was definitely globular. A diagnosis of hydatid disease was hence arrived at.

Thoracotomy was carried out uneventfully on Feb. 16, 1954 (16 days after admission) and a thick-

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From the Medical, Surgical, and Pathological Departments of the Santa Fe Coast Lines Hospital, Los Angeles.
Submitted May 20, 1954.

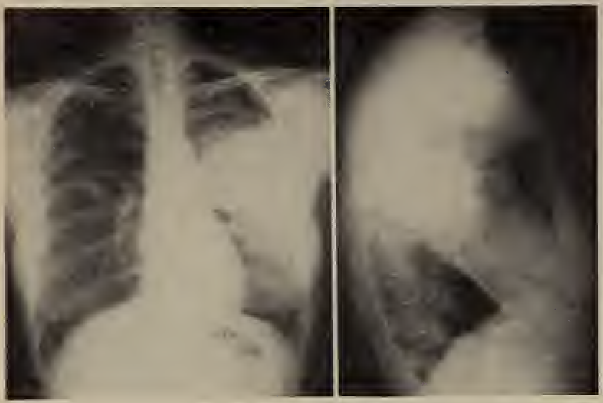

Figure 1.—Preoperative roentgenograms showing irregular area of increased density in left middle lung field.

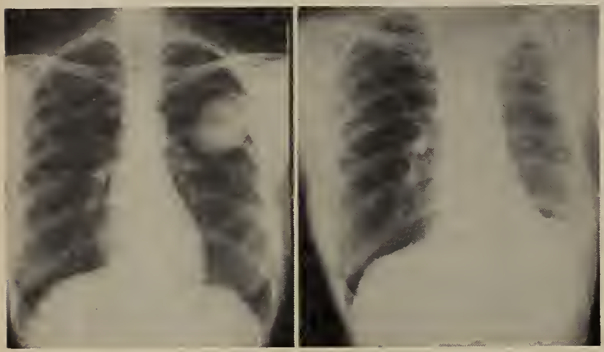

Figure 2.—*Left:* Roentgenograms taken in Persia two years before patient was examined for current illness. *Right:* Postoperative film.

walled cyst occupying the lower portion of the left upper lobe of the lung was observed. The affected lobe was removed and the cyst intact with it.

Pathologist's report. The specimen consisted of a resected segment of lung in which was embedded an oval cyst measuring 6.0 to 9.0 cm. in diameter. The cyst was unilocular. The lining, white and opaque, was 2 to 4 mm. in thickness. The contents of the cyst had been aspirated (for use as Casoni antigen) before fixation, but small brood capsules containing numerous scolices were found. The parenchyma of the lung surrounding the cyst showed considerable thickening and fibrosis for a distance of 1 to 2 cm. peripheral to the capsule.

The postoperative course was uneventful. On the fifteenth postoperative day, leukocytes numbered 8,000 per cu. mm. of blood and 23 per cent of them were eosinophils. The patient was discharged from the hospital on the sixteenth postoperative day. When observed on several occasions afterward she was well.

DISCUSSION

The symptoms of cough, fever and hemoptysis, which are typical of the disease, probably result from atelectasis and secondary infection of the lung parenchyma adjacent and distal to the cyst. These symptoms may also be caused by rupture of the cyst and the expectoration of its contents, with spontaneous cure or remission.[5] Rupture into a surrounding structure other than lung (pleura or pericardium for example) is a serious complication.

The physical signs are nonspecific. Laboratory data for the most part are also noncontributory. Eosinophilia, if encountered, might be of value. Similarly circulating eosinophil counts might also be expected to be elevated. Occasionally cyst fragments or scolices may be observed in microscopic examination of sputum. Aspiration of the cyst, as attempted in the present case, is contraindicated in view of the possibility of leakage occurring, which could result in anaphylaxis and possible dissemination of the lesion.

Roentgen demonstration of a persistent circumscribed mass of unknown cause in the lung parenchyma is undoubtedly the best clue for the diagnosis of this condition. Unfortunately, accompanying reaction in the lung surrounding the cyst may obscure the primary condition, as it did in the present case. X-ray examination of other structures—for example, bones or brain—may be considered to determine whether there are similar lesions elsewhere.

Further confirmation may be facilitated by the availability of antigen for the intradermal test of Casoni. Reports on the specificity of the test vary from a low percentage to the recent report of positive reaction in 25 of 29 proven cases.[1] Negative reaction to the test even in the presence of the disease is said to occur in early lesions. False positive reaction did not occur in a large series of proven cases.[3]

In the United States, most of the reported cases of hydatid disease were in persons who came from regions such as Argentina, Greece, Spain and Australia where cattle raising is common and dogs have access to the carcasses or entrails of the animals.[4]

The treatment of the condition is surgical. The procedures of marsupialization, lobectomy and pneumonectomy have been employed. The operative technique of enucleation, as described by Barrett and Thomas[2] in 71 cases, is probably the procedure of choice when possible.

SUMMARY

A case of pulmonary hydatid disease occurring in a patient who had lived in a region where this disease is prevalent is presented. The methods of diagnosis and treatment are outlined.

65 North Madison, Pasadena 1 (Stirrett).

REFERENCES

1. Annotations: Pulmonary hydatid disease, Lancet, p. 534, March 14, 1953.

2. Barrett, N. T., and Thomas, D.: Pulmonary hydatid disease, Brit. J. Tuberc., 38:39, 1944.

3. Bensted, H. J., and Atkinson, J. D.: Hydatid disease, serological reactions, Lancet, Feb. 7, 1953.

4. Haight, C., and Alexander, J.: Hydatid cysts of the lung, Arch. Int. Med., 65:510, March 1940.

5. Johnston, H. J., Jr., and Twente, G. E.: Pulmonary hydatid (echinococcic) cyst, Ann. Surg., 136:305, Aug. 1951.

Fixed Drug Eruptions

A Report of Two Cases, One Caused by Niacin, the Other by Cocaine

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FIXED ERUPTIONS have been recognized since the original report by Brocq[3] in 1894. Abramowitz[1] in 1941 reviewed the subject very thoroughly and listed the following drugs as having caused fixed eruptions:

- Acetanilid
- Acetylsalicylic acid
- Acriflavine
- Aminopyrine
- Antimony and potassium tartrate
- Antipyrine
- Arsenicals (acetylarsan, arsphenamines, mapharsen, tryparsamide)
- Barbiturates
- Bismuth salts
- Cinchophen
- Eucalyptus, oil of
- Iodides
- Ipomea
- Isacen
- Magnesium hydroxide (magnesia magma)
- Mercury
- Phenolphthalein
- Quinine
- Salicylates
- Sulfanilamide and its derivatives

Since then the list has been enlarged to include:

- Atabrine (mepacrine, quinacrine)[8, 9]
- Aureomycin[6, 13, 14]
- Benadryl (crossed fixed eruption with sulfanilamide)[5]
- Bromides[9]
- Diphenylhydantoin sodium (dilantin, phenytoin sodium)[2, 11]
- Penicillin[4,10]
- Phenacetin[7, 9]
- Terramycin[6, 13]

This paper is presented to report additional causes of fixed eruptions.

CASE 1. A 37-year-old white secretary was first seen November 4, 1952, because of pruritic dermatitis of three or four weeks' duration. The patient had occasional migraine, for which she had been taking nicotinic acid since July of 1952. She also took Empirin Compound (acetophenetidin, acetylsalicylic acid, caffeine) at intervals, and secobarbital sodium.

There was an erythematous, papular and urticarial plaque on the ulnar aspect of the left wrist.

Dermatitis disappeared when all medication was discontinued. It was not reproduced by Empirin Compound or by secobarbital. Nicotinic acid, 50 mg. four times a day, repeatedly reproduced the eruption. The patient found that if she took 25 mg. four times a day the dermatitis did not appear. If she continued 25 mg. four times a day for three or four days, she could then increase to 50 mg. four times a day with only a moderate recurrence of the eruption, which appeared as erythema 15 minutes after ingestion of the drug and persisted for an hour or two.

CASE 2. A 36-year-old white schoolteacher was examined in December, 1945, because of a pruritic eruption of about 18 months' duration. There was a lichenified, erythematous, excoriated plaque on the posterior scrotum and the adjacent perineum. Clinically, the lesion resembled lichen simplex chronicus and was treated as such with crude coal tar ointment and x-ray therapy. The dermatitis improved somewhat but never cleared completely, although treatment was continued at intervals until October, 1946. The patient was subsequently observed because of another condition. At that time, questioning brought out that the dermatitis had continued until the summer of 1947; he had been symptom-free since except when he was given injections of procaine. Each injection, however small, was followed by pruritus and mild exacerbation of the dermatitis of the posterior scrotum and adjacent perineum. When the history of exacerbations with procaine was obtained, a check was made as to the therapy the patient was receiving at the time the dermatitis first appeared, and during the subsequent years, until the summer of 1947. The history showed that the dermatitis began shortly after treatment for sinusitis was instituted. The treatment was, for the most part, cocaine shrinkage of the mucous membrane and, occasionally, antrum washing. Treatment was begun in May of 1944 and continued until the summer of 1947. At times treatments were given as often as two or three a week, and occasionally as infrequently as once a month.

A single experimental cocaine shrinkage caused a minor amount of pruritus of only a few hours' duration. Neither an ointment of 1 per cent procaine nor 0.5 per cent cocaine rubbed into the area caused a reaction.

DISCUSSION

In Case 1, due to nicotinic acid, the lesion was a fixed eruption of pure urticarial type. The reaction gradually subsided although the patient continued to take the causative drug. The patient refused a request to increase the amount of nicotinic acid taken beyond 50 mg. four times a day because generalized flushing sometimes occurred on the dosage being taken.

In Case 2 the lesion was probably a fixed eruption of urticarial type, with, however, lichenification secondary to excoriation. Pruritus reappeared repeatedly after the injection of procaine. A mild attack occurred after experimental shrinkage of the nasal mucosa with cocaine. Neither cocaine nor procaine locally applied reproduced the symptoms.

A brief review of the literature on hypersensitivity to procaine and to cocaine leads to belief that cross-sensitization does occur.[12] Apparently the patient in Case 2 was capable of reacting to both procaine and cocaine, although only the latter was being used at the time the eruption appeared.

SUMMARY

Two new causes of fixed drug eruptions are reported: Nicotinic acid and cocaine. The eruption due to cocaine could be activated by the injection of procaine.

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Presented before the Section on Dermatology and Syphilology at the 83rd Annual Session of the California Medical Association, Los Angeles, May 9-13, 1954.

REFERENCES

1. Abramowitz, E. W.: Fixed eruptions from various drugs and other agents: polyvalent specific sensitivity, Arch. Dermat. and Syph., 43:672, April 1941.

2. Barton, R. L., and O'Leary, P. A.: Fixed drug eruption produced by diphenylhydantin sodium, Arch. Dermat. and Syph.. 48:413, 1943.

3. Brocq, L.: Eruption érythématopigmenteé fixe due à l'antipyrine, Ann. de dermat. et syph., 5:308, 1894.

4. Canizares, O.: Fixed drug eruption due to penicillin, Arch. Dermat. and Syph., 63:800, June 1951.

5. Cawley, E. P.: In discussion of Curtis, A. C., and staff: Fixed drug eruption (sulfonamide), Arch. Dermat. and Syph., 63:522, April 1951.

6. Dougherty, J. W.: Fixed drug eruption due both to Aureomycin and Terramycin, Arch. Dermat. and Syph., 65: 485, April 1952.

7. Jadassohn, J.: Die toxicodermien, Deutsche Klinik, 10:117-153, 1905, cited by Peterkin, G. A. G., personal communication to author.

8. Nelson, L. M.: Dermatitis from atabrine, Bull. U. S. Army M. Dept., 4:725, Dec. 1945.

9. Peterkin, G. A. G.: Uncommon drug rashes, Edinburgh M. J., 58:41, Feb. 1951.

10. Sobel, N.: In discussion of Canizares.[4]

11. Sweet, R. D.: A fixed skin eruption due to phenytoin sodium, Lancet, 258:68, Jan. 14, 1950.

12. Waldron, G. W.: Hypersensitivity to procaine, Proc. Staff Meet., Mayo Clinic, 9:254, April 25, 1934.

13. Welsh, A. L.: Crossed fixed drug eruption from two antibiotics, Arch. Dermat. and Syph., 65:232, Feb. 1952.

14. Welsh, A. L., and Goldberg, L. C.: Fixed drug eruption from Aureomycin, Arch. Dermat. and Syph., 64:356, Sept. 1951.

California
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For information on preparation of manuscript, see advertising page 2

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EDITORIAL

The Physician and Community Service

COMMUNITY SERVICE is an historical function of the physician and of the medical profession. The service rendered by the physician to his patient is a basic service to an individual and to a community. When well rendered it is appreciated and it leads to good public relations, as the history of medicine attests.

The disturbing deterioration in medical public relations during recent years has perplexed many physicians. Curiously this deterioration has occurred during a period of unparalleled scientific achievement in medicine which one would expect to have an opposite effect. Perhaps these undeniably beneficial scientific advances have also had some undesirable side effects on the relations between the medical profession and the public. Perhaps the science of medicine is beginning to overshadow the all-important personal relationship between the individual physician and patient which is the cornerstone of traditional and effective medical practice. If so, this might account for a deterioration in medical public relations.

There is considerable evidence to support this conjecture. Physicians in training find the curriculum almost exclusively devoted to medical science. In practice they work in an atmosphere of the technical specialties. Many come to think of their patients as an example of a disease, rather than as a person with a disease. They tend to consider themselves mainly as technicians. Then, too, the public imagination is captured by each report of a new miraculous treatment or promise of imminent "conquest" of another disease by medical science. Consequently, there has arisen a clamor that these material marvels be mass-produced and mass-distributed, and that the technicians concerned be made to fall into line. This, after all, is the way our culture deals with a new and useful product.

Mass medicine has become an important issue. Many of its developments have been opposed by the medical profession, whose resistance has engendered misunderstanding and criticism in persons who have come to believe that scientific technology is the only really important element in medical practice.

Is mass medicine really good medicine for the human individual? This is a fundamental question which must be decided. The answer seems obvious. Mass medicine serves the individual best only in event of epidemic disease, of mass injuries such as occur in war, or of epidemic psychological disorder. It is inferior to individual personalized medicine in the treatment of endemic individual illness or injury with the accompanying complex psychic, somatic and environmental interrelationships. In ordinary practice the individual is best served by a trained and sympathetic physician who understands all the facets of his personal problem and who uses medical science as a tool. Experienced physicians know that this is true.

The impetus toward mass medicine is being abetted by other powerful forces. There is a worldwide ideological trend toward "security" at the expense of freedom. In this country collective action, even at the expense of certain important individual rights, has been accepted and given legal and judicial support. The development of "fringe" benefits has focussed attention on medical costs and medical insurance programs. The trend toward mass medicine has gained considerable momentum.

Physicians and the medical profession are clearly at a crossroads. They have been challenged to show why the mass production and mass distribution of medical science is not superior to the traditional form of medical practice. Established truths have always had to be retested and reaffirmed if they are not to be displaced by newer ideas. This challenge of mass medicine is a serious one. In several countries it has all but displaced traditional medical practice, at least for a time. In our own country it has powerful supporters. The established truth must be reaffirmed and publicly recognized if it is to survive.

The essence of traditional medical practice is the service rendered by a physician to his patient and by the physician and the medical profession to the community. Through these traditional services the individual receives medical science tailored to fit his personal needs, and the community receives the greatest benefits. It is these services that must be strengthened, reemphasized and publicized along with the marvels of medical science through a program of public relations. A good public relations program serves to identify an individual, group, corporation, profession or the like with the true interests of the individual.

The term "community service" is widely used as a synonym for public relations when services rendered to an individual or to a community are provided. Such a program of publicized services can be highly effective public relations. The activities of physicians and of the medical profession easily fall within the scope of this term. Historically as well as today physicians are dedicated to the best interest of the individual. All that is necessary is that a program of professional and community service attuned to present-day needs be developed and maintained—and publicized.

Public interest in anything pertaining to medicine is great. And authoritative spokesmen representing a profession dedicated to the interests of the individual and supporting services to the community as a whole are usually heard and respected. An informed physician is a most effective public relations agent. A satisfied patient is another. An active program should highlight the services rendered and the motive behind them. It should result in renewed prestige for the physician and his profession, and should insure public support for those things which in the long run are truly important for the health and welfare of the individual and the community. The medical profession needs this support to carry on its work effectively.

LETTERS to the Editor . . .

I WOULD LIKE to write a rebuttal to the letter by Louis Shattuck Baer, M.D. (CALIFORNIA MEDICINE, Dec., 1954, pp. 420-421), in which he said that poliomyelitis patients requiring an iron lung should have been allowed to "mercifully die."

In October 1949 I suffered a severe attack of poliomyelitis, was placed in an iron lung, and today, five years later, I am still dependent upon this type of respiratory aid for an average of 16 hours per day. I have been a patient at Children's Hospital in San Francisco, and at Rancho Los Amigos Center in Los Angeles. This to establish my position as an observer of some experience with the problem.

I appreciate the writer's sincerity and his very obvious interest in this seemingly overwhelming problem. However, I believe that a good deal of what he says and concludes is the result of inferential thinking; more how he should imagine life would be in a mechanical respirator rather than how so living can be.

I am sure the possibility of such a life came so close to him that even now it is like a recurrent remembrance of a horrible nightmare. However, as in many things, the fear is worse than the actuality.

In the first place, it is clinically unacceptable to attach any importance to a patient's consent or lack of consent. In the terrible agony of the acute illness, gasping for breath, desperately ill in body and soul, but still grasping for the sweet remnants of life, no patient is sufficiently objective. In my case, I remember at the time faintly realizing the implications of the problem; but still I begged for the respirator. In my former practice I had seen patients in respirators for years, but at my time of desperation a breath of air was all that I considered. It does not seem to me that the decision rests with the physician. An iron lung is one of countless devices designed by the intelligence of man to prolong the life of the patient. To conclude that the particular life should not be prolonged by inferring that the patient would not want it so is again assuming a decision that we have traditionally left to the Creator.

I cannot agree with the rather materialistic philosophy implied in the remainder of the article. In light of the sympathetic concern shown, I know that it was not intentionally materialistic in outlook. The problem is really not "How can I feed myself?" or "How can I earn a living?" or "What will happen to my family?" These questions are of course real ones, and they plague us daily. The basic question, though, is "Can I be happy?" or "Is life worth living?" And, of course, these are the same questions that healthy persons must answer. I dare say that living in an iron lung considerably sharpens the focus and makes fuzzy, superficial thinking untenable! One must sharply dissect away the seemingly important things, the illusory standards and the petty apparent necessities which frequently encumber the average life and thought. The question must be faced decisively! "Is there a greater good than a greater evil?" No iron lung patient with whom I have talked has considered other than that the balance is for the good.

One's life is difficult; families and family relationships do suffer; one's hopes and dreams are destroyed but for a few; discomfort is always present, frustrations are maddening, and disappointments many. However, that is the evil.

Today I saw about a dozen patients in my office, within wheel-chair distance. I am important to them. We are having friends in for dinner with the family this evening. The table is a little crowded in front of the respirator, but the essences of good fellowship are still there, and the warmth of my family bustling about is as wonderful to me as to any man. I am as important and necessary to them as ever! Later this evening our friends will show us slides of their recent trip to Europe. Later on, I might play chess with my neighbor with insomnia, or perhaps work on an article which will deal with the relationship of poliomyelitis to allergy. Tomorrow, I will have to go into the lung early in order to come out for a couple of hours in the evening to meet with the executive committee of the local tuberculosis association. The next day is Wednesday, my day out of the office. A neighbor boy and my small son and I are going fishing on the wharf. It is almost an hour by wheelchair and an hour back, which leaves at least two hours for fishing; and then back into the lung. All the way down and back we will watch for the fall flights of the dragon-flies, and an occasional solitary vereo, and wonder that the buds of the black willows are beginning to swell already and it is only December.

Each patient must solve the problem of his own solitude and motivation. There are as many ways as there are patients.

The iron lung is, of course, still a damnable problem but it must not be solved with despair and pessimism, not of course with Pollyannaism, or obliqueness. As with the nuclear bomb, which we have also devised, we cannot be horrified by the Machine. We should feel responsible about its existence and for those who are directly affected by the necessity to live in an iron lung. There are many possible things that can be done. Being doctors does not exempt us from the responsibilities or the privileges of being human beings! We must use imagination, empathic concern, we must offer friendship and enjoy it, we must encourage, we must initiate a program for the patient as a living human being oppressed by a devastating and unremittent illness. First of all, means must be provided iron lung patients to live at home. Means must be provided by cooperative effort or, temporarily, by government subsidy, so that the patient can live with essential dignity. Psychological or psychiatric rehabilitation has been grossly neglected and is of greatest importance. Realistic employment rehabilitation is possible, and spontaneous community interest might even designate jobs which would eventually give independence. Switchboards can be operated by tongue or breath-control to make telephone answering services or physicians' exchanges possible for the iron lung patient. Specialty selling is being done with a small showroom and self-service, in conjunction with the iron lung. For persons with talent for it, creative writing is a most satisfying answer. The initiative must often come from the outside, but no community anywhere has failed to respond once the requirements have been effectively presented. The enormous resources of the record libraries for the blind should be made available to respirator patients.

The suffering which Dr. Baer imagines the machine to be causing is not because of the machine itself, but because of the isolation, the sense of social rejection, the erosion of the ego, the frequent necessity of going it alone. The invalided and the deformed and the disabled in mind and body will always be with us, as we know. There must be iron lungs, and braces, and mechanical kidneys, resectoscopes and all manner of useful mechanical contrivances, but our skill in technology must not find us incapable or insensitive in our essential concern for our fellow man. We must continue to care for him with skill, with loving kindness, with affirmation, and with patience. And this we must do not with lip-service but with actions, large or small.

I am glad that the correspondent is not restricted to an iron lung, but I am also grateful that I am still alive.

Duncan A. Holbert, M.D.
422 Locust Street
Santa Cruz, California

* * *

In the December issue of *California Medicine* appears a letter from Dr. Louis Shattuck Baer which states: "I will never give my doctor permission to place me in an iron lung. I would far rather die than risk being kept alive a total and permanent invalid."

Dr. Baer's statement deserves respectful reading for he faced this situation as a patient. It fails, however, to resolve the multihorned dilemma which confronts the physician who must decide upon the use of the respirator. It might do great harm if it caused the laity to believe that admission to the respirator is the end of all hope or if physicians should conclude therefrom that no useful purpose is served by the attempt to keep alive the adult or child with respiratory failure. It is not possible for the physician to know the ultimate fate of such a patient nor can he arrogantly decide whether or not the use of the respirator might be better for the given patient. The patient himself might choose which alternative to select if he were in a position to make a valid decision. Few parents would choose not to give a child the opportunity for survival even when there might be little assurance of eventual rehabilitation.

It is perfectly true that some patients with dismally profound respiratory paralysis are kept indefinitely alive by this machine in a state of complete dependency which offers no hope of ultimate recovery. Almost anyone, if he were to make his choice when he was well, would prefer death as a happier alternative. Unfortunately a course of action must be decided upon at a time when the patient's condition does not usually permit him to share in the decision and his previous convictions can hardly cause the physician to join in his determination for self destruction.

Even with prolonged and complete respirator dependence the will to live persists and many patients accomplish a surprisingly useful and happy existence.

There are many healthy persons who might prefer, before the emergency arises, not to subject their bodies to many of the indignities which accompany modern medical and surgical care. When these conditions actually occur the ultimate judgment for necessary care must be that of the physician.

It is almost impossible to determine during the rapid onset of respiratory failure which patients will go on to permanent dependency and which may quickly recover. The respirator was designed to maintain life during a short period of respiratory arrest with the hope that this function would return. As a matter of fact it was first devised for postdiphtheritic paralysis in which ultimate recovery might well be expected. Many patients who would certainly die during the height of poliomyelitis survive because of the use of the respirator and with varying degrees of postpolio paralysis. Some of these—and not an inconsiderable number—make complete functional recovery.

The first California respirator patient was twice unconscious from respiratory failure, once before he was admitted to the machine and a second time when he was removed for the substitution of another patient (no other machine being available) and before he could be readmitted. When last heard from this man was leading a useful life without very serious impairment. Examples might be multiplied of those who survived the height of the disease only because of the use of the mechanical respirator and have thereafter gone on to relatively normal existence.

The function of the physician is to try to prolong life to the best of his ability—his best efforts never afford more than a reprieve. It is not his prerogative to determine which patient should have the benefit of efforts to maintain life or when these efforts should be terminated. Such decisions must be other than his—sometimes that of a kindly providence.

Sincerely,

Edward B. Shaw, M.D.

San Francisco

* * *

The December issue of *California Medicine* contained a letter by Dr. Louis Shattuck Baer presenting views concerning the use of the "iron lung" for respiratory assistance in poliomyelitis. If the point of view expressed by Dr. Baer were accepted by those of us who deal with acute poliomyelitis, the case fatality rate in this disease would return precipitously to that which prevailed ten years ago, and literally scores of unfortunate young people who now not only survive poliomyelitis but return to normal lives would be doomed to die. During the past four years, approximately 120 patients with severe bulbar and spinal respiratory paralysis have been treated in Alameda County hospitals. Of these, 15 have died. Since January 1953 some 50 patients with grave paralysis have been treated for respiratory paralysis and only one fatality occurred. No deaths have occurred during 1954. Of the 50 patients with respiratory paralysis treated during the past two years, only two are totally quadriplegic, and only a small additional number will remain very severely handicapped throughout life. Most of the patients involved have already returned to gainful lives, sufficiently rehabilitated to have resumed their normal family relationships and either their original or some other form of gainful employment. In virtually every instance, quite in contradistinction to Dr. Baer's opinion, *these patients would not have survived without the use of the iron lung.* Had some few of them been lucky enough to escape death, they would almost certainly have progressed to total quadriplegia as a secondary result of augmentation of damage to the nervous system through hypoxia.

Had we followed Dr. Baer's admonition to inform each of these patients of "all the pros and cons involved" and permitted someone with Dr. Baer's views to prejudice the issue, the case fatality and recovery picture would undoubtedly have been quite different. Many of the patients were confused, acutely ill and quite beyond communication, let alone decision as to the best course to follow even had all the facts been given. As a matter of fact, in every instance where it was possible, a frank discussion of the procedures involved preceded the use of the respirator or the performance of tracheotomy. In no single instance was there any hesitation on the part of a well-informed patient to accept an obviously beneficial method of treatment.

In our experience, which parallels that in other centers, there are occasional psychological depressions among our seriously involved patients. There are frequent major problems of social and economic adjustment. However, it is the exceptional patient who ever expresses a distaste for life even in the face of extreme disability and dependence upon devices. The morale in ours as in all other respirator centers is exceptionally high. The utilization of the available techniques in psychology, physical therapy, occupational therapy, electronic implementation and good medical management opens up remarkable opportunities for living even among the most severely handicapped.

We should like to have an opportunity to demonstrate to Dr. Baer the actual situation among patients who survive the iron lung. In contrast to the pitiable condition described in his letter, particularly in his "reason number 5," the actual situation among some of the most handicapped might serve to alter his conviction. I should like to introduce him to one young man who still requires a portable respirator at night, who has no use of his upper extremities, yet who succeeds in teaching high school successfully and who looks upon his future as anything but hopeless. He might profit as well from the opportunity to discuss with a young professor of psychology the resources of the human spirit despite afflictions of motor apparatus including the power to breathe. He would have to be obdurate indeed to resist the infectious courage of patients from many northern California counties now under treatment at Fairmont Hospital who are making the fight toward rehabilitation which Dr. Baer seems to consider hardly worth the effort.

On the other hand, perhaps Dr. Baer's convictions with respect to euthanasia will prevent an objective appraisal of the facts. If this is so, he and others who hold similar views should reflect upon the ultimate consequences of their views.

While Dr. Baer does not frankly propose that the physician make a decision which might result in loss of life, he advises that doctors propagandize against the use of a life-saving measure among their patients while they are well. This curious doctrine is but one step from a policy of withholding treatment when, in the doctor's judgment, a life is not worth saving. The consequences of such a doctrine have been well illustrated in the recent past. Dr. Baer is urged to read an edifying if somewhat depressing article by Dr. Leo Alexander which appeared in the *New England Journal of Medicine*, 241:39-47, July 14, 1949. Entitled "Medical Science Under Dictatorship," it illustrates the pitfalls into which the physician may blunder once he rejects the most fundamental tenet of medical ethics—the duty to preserve human life.

Beyond this fundamental criticism of Dr. Baer's letter, it should be pointed out that his view is based upon a series of errors of fact. With specific reference to his "reasons for my decision never to allow myself to be placed in an iron lung (or rocking bed)," the following statements of fact are submitted:

1. Patients with partial paralysis of breathing muscles, if unsupported by respiratory aids, have a very great chance to develop complete quadriplegia and total respiratory paralysis leading to death.

2. Not only would these patients crippled by total or nearly total paralysis have mercifully died within a few hours, but so also would the 80 to 90 per cent of persons who make satisfactory recoveries following the use of the iron lung and other devices.

3. The physician would be ill advised indeed if he were to permit his critically ill patients, many of them mentally clouded by hypoxia, to decide the type of treatment necessary for their care.

4. It is true that the iron lung is keeping more and more people alive. In thirteen respirator centers across the country, most of which are equipped to provide care for fewer than twenty (rather than more than 100) patients, the rehabilitation rate is high and the great majority of patients treated return to their homes with relatively limited disabilities. Admittedly, a large number of severely disabled patients do accumulate over the years.

5. Those with the pitiable conditions described by Dr. Baer represent a challenge to the medical profession and allied disciplines which cannot be met by a defeatist attitude. The resources of human ingenuity can make life worth while even for them. The great momentum of the rehabilitation movement has been fostered to a great extent by remarkable achievements in the treatment of poliomyelitis.

6. The critical distinction between paralysis of the upper extremities and that of the lower extremities could not be sustained on the basis of Dr. Baer's philosophical doctrine. It is no great extension of

his point of view to deny care to persons handicapped by paraplegia as was the late Franklin Delano Roosevelt. The paraplegic may also be looked upon with pity rather than hope. Food as well as medical care could be denied him too, if we were to decide on the basis of emotion and personal reaction which patient should survive and which should not.

7. Dr. Baer's view that the degree of damage in poliomyelitis is entirely dependent upon the extent of virus invasion disregards the factor of hypoxia as an element in the spread of pathological process and a major factor influencing recovery. It is not true that the extent of involvement is determined by factors "beyond human ability to alter in any way." The diminishing frequency of quadriplegia, despite the vastly increased survival rate, is adequate testimony against this nihilistic viewpoint.

8. The family welfare of the patient stricken with severe poliomyelitis is subject to amelioration by a host of willing individuals and agencies. A civilized society such as ours can succeed in meeting this challenge very well. When it fails to do so, the fault may all too often be traced to a lack of conscientious endeavor on the part of those who supervise the care of the afflicted individuals.

I am confident that I speak for all of my fellow physicians who have devoted much energy to the solution of the problem of respiratory paralysis in poliomyelitis. I am equally confident that I speak for the great majority of those patients who have, through the grace of Providence, and the utilization of many remarkable "man-made machines" survived to face the continuing challenge of human endeavor.

LEON LEWIS, M.D.
Chief, Poliomyelitis Service
Poliomyelitis Respiratory and Rehabilitation Center, Fairmont Hospital, San Leandro.

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MARCH ISSUE

of

CALIFORNIA MEDICINE

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

Tentative Draft: Minutes of the 409th Meeting of the Council, Los Angeles, December 11, 1954.

The meeting was called to order by Chairman Lum in Conference Room No. 2 of the Biltmore Hotel, Los Angeles, at 9:30 a.m., Saturday, December 11, 1954.

Roll Call:

Present were President Morrison, President-elect Shipman, Secretary Daniels, Speaker Charnock, Vice-Speaker Bailey and Councilors West, Wheeler, Loos, Sampson, Pearman, Randel, Ray, Sherman, Lum, Bostick, Teall, Frees, Carey, Kirchner, Reynolds, Varden and Heron.

Absent for cause, Editor Wilbur.

A quorum present and acting.

Present by invitation during all or a part of the meeting were Messrs. Hunton, Thomas, Gillette and Clancy of C.M.A. staff; legal counsel Howard Hassard; county society executive secretaries Bannister of Orange, Donovan of Santa Clara, Foster of Sacramento, Geisert of Kern, Jensen of Fresno, Nute of San Diego, Scheuber of Alameda-Contra Costa, Thompson of San Joaquin, Young of Los Angeles, and Robert Marvin of Riverside; Jerry L. Pettis of Los Angeles and Robert Williams of Orange County; Messrs. Ben H. Read and Eugene Salisbury of the Public Health League of California; Mr. K. L. Hamman of California Physicians' Service; Drs. H. L. Gartshore, Mathew Ross, James C. Doyle, J. Lafe Ludwig, J. Norman O'Neill, Murray Hunter Brown and Eugene F. Hoffman.

1. *Minutes for Approval:*

(a) On motion duly made and seconded, minutes of the 408th meeting of the Council, held October 3, 1954, were approved.

(b) On motion duly made and seconded, minutes of the 245th meeting of the Executive Committee, held November 17, 1954, were approved.

2. *Membership:*

(a) A report of membership as of December 9, 1954, was presented and ordered filed.

(b) On motion duly made and seconded in each instance, nine applicants were elected to Retired Membership. These were:

O. O. T. McAllister, Alameda-Contra Costa County; Hugh W. Bell, Kern County; George Martyn, Marie A. Vachout, Los Angeles County; William L. Garth, San Diego County; Lionel Player, Harry P. Robarts, Francis Williams, San Francisco County; Paul T. Quarry, Sonoma County.

(c) On motion duly made and seconded in each instance, 21 applicants were elected to Associate Membership. These were:

Leo J. Butler, Grace M. Hyde, Alameda-Contra Costa County; H. W. Bissonette, Richard V. Freeman, Lorna M. Forbes, Edmund B. Hardin, Leroy Hyde, Robert M. Lipschutz, Stefan P. Wilk, Los Angeles County; Loyd W. Bond, Paul W. Embree, Madera County; Isabella Clinton, Napa County; Bruce M. Summers, Riverside County; George A. Gross,

ARLO A. MORRISON	President
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WILBUR BAILEY, M.D.	Vice-Speaker
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ALBERT C. DANIELS, M.D.	Secretary-Treasurer
IVAN C. HERON, M.D.	Chairman, Executive Committee
DWIGHT L. WILBUR, M.D.	Editor
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Norris R. Jones, John Pennington, George G. Snively, Charles M. Webster, Sacramento County; William B. Beach, Jr., N. L. Petrakis, Richard D. Walter, San Francisco County.

(d) On motion duly made and seconded in each instance, reductions of dues were voted for 13 applicants for reasons of illness or postgraduate study.

(e) On motion duly made and seconded, 58 members whose memberships had become delinquent, were voted reinstatement on payment of their dues.

(f) Report was made on an appeal received from a San Francisco member who was expelled from membership following hearing of charges of unprofessional conduct.

On nomination duly made and seconded, it was voted to appoint Dr. T. Eric Reynolds as a conciliator in this case.

On motion duly made and seconded, it was voted to hear the appeal during the next meeting of the Council to be held in San Francisco on Saturday, February 5, 1955, at 2:00 p.m.

3. *Financial:*

(a) A report of bank balances as of December 9, 1954, was received and ordered filed.

(b) A report of receipts and expenditures for November and for the five months ended November 30, 1954, was received and ordered filed.

4. *State Department of Public Health:*

Dr. Malcolm H. Merrill, State Director of Public Health, reported that state legislation will be needed to make state hospital construction fund laws coincide with amendments adopted by Congress to the federal Hill-Burton law. Legal counsel Hassard is reviewing state law amendments prepared by the Attorney General's office.

Dr. Merrill reported that the Association of State and Territorial Health Officers had voted to request that polio vaccine be confined by the National Foundation for Infantile Paralysis to use in first and second grade children and that pregnant women not be considered as additional recipients of the prospective 9,000,000 units. He also stated that the State Department of Public Health had been assigned to a study of the factors surrounding smog conditions. On motion duly made and seconded, it was voted that the Council recognizes that smog may constitute a serious health problem and for that reason the Council will lend assistance to any official agencies investigating the problem.

5. *Public Policy and Legislation:*

Discussion was held on a proposal of the State Department of Mental Hygiene for the establishment throughout the state of mental hygiene clinics. On motion duly made and seconded, this subject was voted referred to the Executive Committee for further study.

6. *Committee on Public Health and Public Agencies:*

Dr. Francis E. West, chairman of the Committee on Public Health and Public Agencies, reported that there are various problems concerning the use and distribution of gamma globulin and polio vaccine, discussion of which will come before a later meeting.

7. *Public Relations:*

(a) Ed Clancy reported that more than 1,000,000 pieces of literature produced by the Public Relations Department had been ordered by member physicians for distribution to their patients. In addition, more than 7,000 members have ordered a desk or wall plaque which invites a frank discussion of medical fees and services.

(b) A request from the San Francisco Medical Society for the appropriation of $865 for production of a television film was discussed. It was pointed out that a similar request for funds from another county society had been denied a year earlier. On motion duly made and seconded, it was voted to table the request pending the establishment of a policy to cover matters of this type.

8. *Conference on Physicians and Schools:*

Secretary Daniels reported on the success of the first Conference on Physicians and Schools, held in Fresno, November 11-12. He presented a series of recommendations adopted by the conference. The Council acted on these recommendations as follows:

(a) Moved, seconded and voted to approve a recommendation that the Association recommend to all Boards of Education periodical health examinations, including chest x-rays and pertinent laboratory work, for all school personnel, certificated or not and regardless of tenure status.

(b) Referred to the Committee on Public Health and Public Agencies a recommendation for development in general hospitals of preventive medical services for indigents.

(c) Referred to the same committee a proposed recommendation by the Association to the Joint Committee of the State Department of Public Health and the State Department of Education for the formulation of guides for the suggested development of local health policies and standing orders to be followed in emergency care.

(d) Approved the establishment of school health committees in the county societies; to work with others in solving problems of school health; referred to the Executive Committee the question of employing staff representatives for this purpose.

(e) Approved a request to the State Superintendent of Public Instruction that two groups of school principals make the school health program their theme for 1955 meetings.

(f) Approved formation of a State Advisory School Health Council, with representation from other groups.

On motion duly made and seconded, it was voted to commend Dr. Daniels and Mr. Robert Thomas for having arranged and carried through an outstandingly successful conference.

9. *Rollen Waterson Associates:*

Mr. Waterson suggested that a special meeting of the House of Delegates, which had been urged as a means of discussing health insurance problems, was probably not needed at this time. On motion duly made and seconded, it was voted not to schedule such a meeting.

On motion duly made and seconded, it was voted that Rollen Waterson Associates be instructed to aid and counsel each county society in which pressure and urgency exist and which requests such counsel in discussing the $4,200-$6,000 income ceiling and fee schedule, to the end that such counties may better resolve their problems, and that this be one of their major activities.

Mr. Waterson also commented on the current findings in a survey which seeks to determine possible causes for patient dissatisfaction with physicians.

10. *Committee on Mental Health:*

Dr. H. L. Gartshore, chairman of the special Committee on Mental Health, reviewed the committee's report, stated that psychiatrists and clinical psychologists at the national level have suggested that no new legislation in the field of licensing or registering psychologists be undertaken by either group at this time, and suggested that a committee similar to the current committee be continued for purposes of discussion of this subject with the psychologists.

On motion duly made and seconded, it was voted to commend Dr. Gartshore and his committee for an excellent study and report.

11. *California Physicians' Service:*

Mr. K. L. Hamman reported that the C.P.S. membership is now more than 660,000 members and the physician membership more than 12,000. He stated that in the first ten months of 1954, a total of 271,000 members had been enrolled and that annual revenues from the nonveteran program is running at the rate of $25,000,000 annually. He also reported that the average hospital stay has risen from six to seven days in the past year. The indemnity insurance company is ready to do business, he said, and has received one request from a county society to issue contracts. The administrative expense of C.P.S. is now 11.9 per cent of dues received.

12. *Legal Department:*

Mr. Hassard reported that several proposed changes in the Medical Practice Act are contemplated in bills to be proposed by the Board of Medical Examiners.

Mr. Hassard also reported on proposed federal legislation relating to payments by states for the education of medical, dental and veterinary medical students in schools operated by other states. On motion duly made and seconded, it was voted to go on record as favoring the purpose of this legislation but to defer action on it until a more thorough study of the school facilities can be made.

On motion duly made and seconded, it was voted to favor the purpose of state legislation proposed by registered nurses to clarify present regulations governing physical therapy.

On motion duly made and seconded, it was voted to express the view that there is no present need for the establishment of a new licensing system to cover naturopaths.

13. *Medical Services Commission:*

Dr. Hollis L. Carey, chairman of the Medical Services Commission, introduced Dr. Frank J. Cox, who reported on the progress in a statewide relative value fee study. The fee subcommittee has retained Mr. Ralph Nelson as an actuary to assist in evaluating the study returns and has sought the further assistance of Frank Dickinson, Ph.D., director of the A.M.A. Bureau of Medical Economic Research. Dr. Dickinson spoke briefly on the further work needed to make the relative value fee study of value to all physicians.

Dr. Cox estimated that an additional $10,000 would be needed to carry on the additional studies, and on motion duly made and seconded, by more than a three-fourths vote of all voting members, it was voted to appropriate an additional $10,000 for this purpose.

14. *Annual Secretarial Conference:*

Secretary Daniels suggested that invitations to the annual Secretarial Conference be sent to all county society presidents and secretaries, to chairmen of medical services committees and to the presidents and secretaries of the branches of the Los Angeles County Medical Association. This suggestion was approved by the Council and the date of February 6, 1955, or January 30, 1955, was set for this conference.

15. *Sympathy to Mrs. J. Frank Doughty:*

On motion duly made and seconded, it was voted to express to Mrs. J. Frank Doughty the sympathy of the officers and Councilors in the death of her husband.

16. *Alternate Delegate to American Medical Association:*

On motion duly made and seconded, it was voted to elect Dr. Sidney J. Shipman as Alternate to Dr. Dwight L. Wilbur, Delegate to the A.M.A. This appointment will run for the calendar year 1955 and the office, to succeed the late J. Frank Doughty, will be set for election at the 1955 Annual Session.

17. *Crippled Children's Program:*

Dr. Hartzell Ray gave a progress report on meetings held with the State Department of Public Health and with osteopathic representatives for the discussion of possible recognition of osteopathic specialists in the treatment of crippled children's cases.

18. *Advisory Planning Committee:*

Mr. Hunton reported on the meeting a day earlier of the Advisory Planning Committee and requested the Council to name Mr. Robert Marvin of Riverside County and Mrs. Olive Neick of San Francisco as new members of the committee. On motion duly made and seconded, these appointments were approved.

19. *Foreign Tours:*

Mr. Hunton reported on three requests from travel companies or agencies for C.M.A. approval of proposed foreign tours. On motion duly made and seconded, it was voted to disapprove all such requests.

20. *Medical School Activities:*

On motion duly made and seconded, it was voted to refer to the Executive Committee several problems revolving around the private practice of medicine in publicly-supported medical schools and facilities.

21. *Osteopathy:*

A letter from Dr. Wayne Pollock, giving a progress report on meetings of his special committee with a similar committee of osteopaths on the subject of amalgamation, was read and ordered filed.

22. *Committee on Rural Health:*

Dr. Henry A. Randel, chairman of the Committee on Rural Health, reported on the Rural Health Conference planned for Fresno in February, stated that his committee was working with the statewide Rural Health Council and that the success of the conference would depend in large measure on the participation of physicians.

23. *Standing and Special Committees:*

Dr. Daniels commented on the need for revising policies in effect relating to standing and special committees and asked that this subject be taken up at a later meeting.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 5:15 p.m.

Donald D. Lum, M.D., *Chairman*
Albert C. Daniels, M.D., *Secretary*

Executive Committee Minutes

Tentative Draft: Minutes of the 246th Meeting of the Executive Committee, Los Angeles, December 11, 1954.

The meeting was called to order by Chairman Heron in Conference Room No. 2 of the Biltmore Hotel, Los Angeles, at 5:15 p.m., Saturday, December 11, 1954.

Roll Call:

Present were President Morrison, President-elect Shipman, Speaker Charnock, Council Chairman Lum, Auditing Committee Chairman Heron and Secretary Daniels. Absent for cause, Editor Wilbur.

Present by invitation were Messrs. Thomas and Clancy of C.M.A. staff; legal counsel Hassard; Mr. Ben H. Read of the Public Health League of California; Rollen Waterson, health insurance consultant; and Drs. Murray Hunter Brown, J. Philip Sampson, Frederick G. Kirby and M. M. Horner.

1. *California Tuberculosis Association:*

On motion duly made and seconded, it was voted to support in principle the furnishing of adult educational facilities in tuberculosis sanitoria, subject to the furnishing of a copy of proposed legislation to the Committee on Public Policy and Legislation before final approval is given.

2. *Physicians' Benevolence Fund:*

Mr. Hassard presented for signatures the articles of incorporation of Physicians' Benevolence Corp., a California nonprofit corporation organized for charitable purposes. This corporation will take over the functions of the present Physicians' Benevolence Committee and will make possible the elimination of certain taxes.

3. *Insurance Representatives:*

Discussion was held on a request for a meeting with Association officials received from representatives of several insurance companies in the accident and health insurance field. It was agreed that such a meeting should be held at a later date.

Adjournment:

There being no further business to come before it, the meeting adjourned at 6:30 p.m.

Ivan C. Heron, M.D., *Chairman*
Albert C. Daniels, M.D., *Secretary*

In Memoriam

BISHKOW, ISADORE E. Died in Los Angeles, October 12, 1954, aged 66, of hemorrhage from esophageal varices and cirrhosis of the liver. Graduate of the University of Illinois College of Medicine, Chicago, 1911. Licensed in California in 1911. Doctor Bishkow was a member of the Los Angeles County Medical Association.

✤

ENLOE, NEWTON T. Died in Chico, December 14, 1954, aged, 82, of bronchiectasis. Graduate of the Missouri Medical College, St. Louis, 1895. Licensed in California in 1901. Doctor Enloe was a member of the Butte-Glenn Medical Society.

✤

FLEMING, LUTHER P. Died in Sanger, December 30, 1954, aged 78, of bronchopneumonia. Graduate of Cooper Medical College, San Francisco, 1904. Licensed in California in 1904. Doctor Fleming was a member of the Fresno County Medical Society, a life member of the California Medical Association, and an associate member of the American Medical Association.

✤

GALLAGHER, VINCENT J. Died in Los Angeles, January 3, 1955, aged 60, of carcinoma of the lung. Graduate of St. Louis University School of Medicine, Missouri, 1918. Licensed in California in 1926. Doctor Gallagher was a member of the Los Angeles County Medical Association.

✤

GUNN, HERBERT. Died in San Francisco. December 23, 1954, aged 82. Graduate of Cooper Medical College, San Francisco, 1895. Licensed in California in 1896. Doctor Gunn was a retired member of the San Francisco Medical Society, the California Medical Association, and an associate member of the American Medical Association.

✤

JACOBSEN, JESS F. Died in San Francisco, December 19, 1954, aged 50, of coronary artery disease. Graduate of the University of California Medical School, Berkeley-San Francisco, 1935. Licensed in California in 1935. Doctor Jacobsen was a retired member of the San Francisco Medical Society, the California Medical Association, and an associate member of the American Medical Association.

KINYOUN, FLOYD H. Died in Santa Monica, December 23, 1954, aged 63. Graduate of Creighton University School of Medicine, Omaha, Neb., 1915. Licensed in California 1937. Doctor Kinyoun was a member of the Los Angeles County Medical Association.

✤

KOFF, RAPHAEL J. Died in Los Angeles, December 14, 1954, aged 44, of coronary artery disease. Graduate of the University of Minnesota Medical School, Minneapolis, 1935. Licensed in California in 1939. Doctor Koff was a member of the Los Angeles County Medical Association.

✤

LIPSON, BARNETT. Died November 12, 1954, aged 55. Graduate of McGill University Faculty of Medicine, Montreal, Quebec, 1928. Licensed in California in 1929. Doctor Lipson was a member of the Los Angeles County Medical Association.

✤

LYNCH, WILLIAM C. Died in Aptos, December 18, 1954, aged 67. Graduate of the Oakland College of Medicine and Surgery, 1915. Licensed in California in 1915. Doctor Lynch was a retired member of the San Mateo County Medical Society, the California Medical Association, and an associate member of the American Medical Association.

✤

MEYER, PAUL J. Died in San Francisco, December 21, 1954, aged 67. Graduate of Friedrich-Wilhelms-Universität, Medizinische Fakultät, Berlin, Prussia, Germany, 1912. Licensed in California in 1942. Doctor Meyer was a member of the San Francisco Medical Society.

✤

ROSE, ERNST. Died in San Francisco, December 27, 1954, aged 54. Graduate of Medizinische Fakultät der Universität, Wien, Germany, 1926. Licensed in California in 1938. Doctor Rose was a member of the San Francisco Medical Society.

✤

SWEETSER, GEORGE W. Died in Martinez, December 14, 1954, aged 75, of carcinoma of the pancreas. Graduate of the University of California Medical School, Berkeley-San Francisco, 1901. Licensed in California in 1901. Doctor Sweetser was a retired member of the Alameda-Contra Costa Medical Association, the California Medical Association, and an associate member of the American Medical Association.

APPLICATION FOR HOUSING ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the **California Medical Association**, May 1-4, 1955, in San Francisco, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, you will stand a much better chance of securing accommodations of your choice if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

ALL RESERVATIONS MUST BE RECEIVED BEFORE: APRIL 15, 1955

NOTE: ***The House of Delegates will convene at the Sheraton-Palace Hotel; all scientific sessions and exhibits will be at the Civic Auditorium.***

Eighty-fourth Annual Session

CALIFORNIA MEDICAL ASSOCIATION

San Francisco, California

MAY 1-4, 1955

HOTEL ROOM RATES*

	Single	Double	Twin Beds	Suites
SHERATON-PALACE HOTEL Market and New Montgomery	7.50-15.00	10.00-17.50	10.50-18.00	19.00-65.00
ST. FRANCIS HOTEL Powell and Geary	9.00-20.00	11.00-16.00	13.00-22.00	24.00-40.00
SIR FRANCIS DRAKE HOTEL Powell and Sutter	8.50-14.00	10.50-16.50	13.00-19.50	25.00-36.00
CLIFT HOTEL Geary and Taylor	10.00-15.00	10.00-18.00	13.00-18.00	18.00-35.00
PLAZA HOTEL† Post and Stockton †Deposit required	6.00-7.00		9.00-10.00	
STEWART HOTEL Geary and Powell	4.50-8.00	6.50-10.00	7.00-12.00	12.00-17.00
WHITCOMB HOTEL Market and Eighth	5.00-9.00	7.00-11.00	8.00-12.00	18.00-25.00
ALEXANDER HAMILTON O'Farrell and Hyde	6.00-11.00	8.00-13.50	8.50-14.00	12.00-30.00

***The above quoted rates are existing rates but are subject to any change which may be made in the future**

CALIFORNIA MEDICAL ASSOCIATION
450 Sutter Street—Room 2000
San Francisco 8, California

Please reserve the following accommodations for the 84th Annual Session of the California Medical Association, in San Francisco, May 1-4, 1955.

Single Room $............ Double Bedded Room $............ Twin Bedded Room $............

Small Suite $............ Large Suite $............ Other Type of Room $............

First Choice Hotel............ Second Choice Hotel............

ARRIVING AT HOTEL (date)............Hour:............A.M............P.M.

Leaving (date)............Hour:............A.M............P.M.

Hotel reservations will be held until 6:00 P.M., unless otherwise notified

THE NAME OF EACH HOTEL GUEST MUST BE LISTED. Therefore, please include the names of both persons for each double room or twin bedded room requested. Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

....

....

....

....

Individual Requesting Reservations—Please print or type

Delegate?............ Alternate?............

Name............ County............

Address............ City and State............

WOMAN'S AUXILIARY
TO THE CALIFORNIA MEDICAL ASSOCIATION

On this page during the past several months you have been introduced to ten of the officers and committee chairmen who help to guide and coordinate the activities of our state Auxiliary. In this issue, we would like to present several more of them and tell you a little about their duties and achievements.

* * *

COURIER *IS THE BEST IN THE NATION*

Our state magazine, *Courier,* has for many years been rated as the best publication of its kind. Issued five times a year, it is an attractive 20-page magazine reflecting the work and accomplishments of the component county units which make up the largest state Auxiliary in the nation. Editor this year is Mrs. Charles Sprague of East Highlands; Mrs. Horace Sharrocks of Sebastopol is Associate Editor, and Mrs. Francis Howard of San Carlos is Circulation Manager. Executive Director of the magazine is Mr. Robert L. Thomas, assistant Executive Secretary of the California Medical Association.

* * *

PUBLIC RELATIONS IS A BROAD FIELD

Public Relations is not a single program or project, but our day-by-day relations with the public. Good public relations is not something that can be brought about at a single stroke by one person or one committee; it is the sum total of everything we say or do, as individuals and as an Auxiliary.

However, a few specific projects are planned each year in all of our counties to create better public relations and to acquaint the public with the activities, aims and accomplishments of the Medical Association and its Auxiliaries.

Coordinating the work on a state level is Mrs. Theodore Poska of Eureka, who stresses the importance of 100 per cent membership participation in creating good public relations. She cooperates with the chairmen of Program, Nurse Recruitment, Mental Health, and Legislation in planning projects and activities that will reflect the Auxiliary's sincere interest in Community Service.

* * *

WE OPERATE ON A BUDGET

Since we are a large organization, with nearly 6,000 members, we handle thousands of dollars annually. Every member pays $1 in dues to the national Auxiliary and $1 to the state Auxiliary, plus the dues set by her own county, which may vary from about $3 to $5 a year. Mrs. Arthur Hurd of San Marino has the responsible job of treasurer; Mrs. Floyd K. Anderson of Los Angeles is finance chairman. Serving with these two officers to form the Finance Committee is the former treasurer, Mrs. Newell Jones of Encino. All bills incurred by the Auxiliary must be approved by this committee and a voucher is made for every expenditure. Our books are audited on April 15 each year, and a complete financial report is made to the membership in May.

* * *

OUR ACHIEVEMENTS ARE RECORDED FOR POSTERITY

And that is the work of our Historian, Mrs. Bryson Cox of Fresno. She compiles a detailed history of the work we accomplish during the current year and places it in our files at the C.M.A. office in San Francisco. She also sends a copy to the National Historian, and she makes a brief oral report at the State Convention in May. She collects significant publicity from the counties for a scrapbook of news clippings, and collects yearbooks, printed programs and any other material of historical or reference value.

* * *

THE REVISIONS COMMITTEE WORKS WITH THE ADVISORY BOARD

The Committee on Revisions considers all proposed amendments to the Constitution and By-Laws of the Auxiliary and presents them to the Convention delegates for their consideration. An affirmative vote of at least two-thirds of the voting members is required, and the amendments must first have been approved in writing by the Advisory Board of the California Medical Association.

Chairman of this very important committee is Mrs. William W. Newman of San Francisco, a past County President and a former State Board member. Also serving on the committee is the State Parliamentarian, Mrs. Carl Burkland of Sacramento, junior Past President of the State Auxiliary.

* * *

PICK A HOTEL

It isn't too soon, is it, for a doctor who plans to attend the C.M.A. Annual Session in May to discuss with his wife where they will stay while they are in San Francisco? [See information regarding housing accommodations, page 140.]

MRS. FREDERICK J. MILLER, *President*

NEWS & NOTES

NATIONAL • STATE • COUNTY

LOS ANGELES

Dr. Ewing L. Turner of Los Angeles was elected president of the Los Angeles County Medical Association for the year 1955 at the annual elections held in December. He succeeds Dr. J. Philip Sampson of Santa Monica. Dr. Orville W. Cole of Long Beach was elected vice-president and Dr. J. Norman O'Neill of Los Angeles was elected secretary-treasurer.

* * *

Jefferson Medical College Alumni of Southern California will sponsor a banquet during the annual scientific assembly of the American Academy of General Practice which is to be held in Los Angeles March 28-31. The banquet is scheduled for Tuesday, March 29, in the Statler Hotel. Cocktails will be served at 7 o'clock and dinner at 8. Information and reservations may be obtained from Dr. J. Elder Bryan, Jr., 6253 Hollywood Boulevard, Los Angeles 28.

* * *

Dr. Peter V. Lee, formerly a member of the faculty of the Stanford University School of Medicine, has been appointed assistant dean of the University of Southern California School of Medicine. Dr. Lee will assist Dean Gordon E. Goodhart with administrative affairs and will also serve as assistant professor of pharmacology and toxicology.

* * *

Officers elected by the **Metropolitan Dermatological Society** of Los Angeles for 1955 are: President, Dr. Irving A. Lewe, Montebello; vice-president, Dr. Harold Price, North Hollywood; and secretary-treasurer, Dr. Edward L. Murphy, Burbank.

* * *

Dr. Myron Prinzmetal, attending physician at Cedars of Lebanon Hospital, has been named among the ten winners of the 1955 **Modern Medicine Award for Distinguished Achievement.** Announcement of the award was made by Dr. Walter C. Alvarez, editor in chief of *Modern Medicine* magazine. Dr. Prinzmetal, who is also associate clinical professor of medicine at the University of California, Los Angeles, received the award for his advancement of understanding of the physiology and treatment of heart disease. He is also a member of the National Advisory Heart Council.

* * *

The Third National **Air Pollution Symposium** is scheduled to be held April 18-20 in Pasadena. The program now planned will cover the areas of new analytical techniques and instrumentation, physiological effects of air pollution on plants and animals, and legal and management aspects of the air pollution problem.

SAN FRANCISCO

The fourth biennial **Western Conference on Anesthesiology** will be held in San Francisco, March 21-23.

* * *

The first **Medical Service Personnel Procurement** office for the Regular Army and Army Reserve has been opened at Stillwell Hall, Presidio of San Francisco.

The office was established to facilitate the release of information about the Army Medical Service to doctors, dentists, veterinarians, Medical Service Corps and Women's Medical Specialist Corps.

Major Frederic C. Buck, who was given the assignment of opening the office, will handle inquiries on the doctor's draft law, Army internship and residency programs, opportunities and benefits in the medical service, graduate professional education programs, and specialist opportunities in the Army.

* * *

The **Western Industrial Medical Association** will hold its fourteenth annual meeting in San Francisco, Saturday, April 30, the day before the opening of the California Medical Association's Annual Session. The meeting, which is to be in the Empire Room of the Sir Francis Drake Hotel, will start at 8:15 in the morning and close at 5 in the evening.

SAN MATEO

Dr. James S. Edwards of San Carlos has been installed as president of the San Mateo County Medical Society. He succeeds Dr. Bradley C. Brownson of San Mateo. Dr. Norman C. Fox of San Carlos, secretary-treasurer last year, was elected president-elect, and Dr. Henry A. Brown of San Mateo was elected secretary-treasurer.

SONOMA

The third annual meeting of the **California Blood Bank System** will be held in Santa Rosa, February 25-27. Besides medical aspects of blood banking and discussions of the therapeutic uses of blood and blood fractions, there will be committee reports, discussion of administrative matters and election of officers. Major General William F. Dean, United States Army, will be guest speaker at a dinner meeting Saturday evening, February 26.

GENERAL

The next available appointment for the **Earl D. Osborne Fellowship in Dermal Pathology** begins July 1, 1955, according to recent announcement by the American Academy of Dermatology and Syphilology which sponsors the fellowship. Purpose of the fellowship is to provide annually the opportunity for study and training in dermal pathology to a postgraduate student who has completed satisfactorily at least one year or preferably two years of training in dermatology. **The stipend** is $4,000 a year, divided into four quarterly payments during the year's fellowship. The period of training will be spent at the Armed Forces Institute of Pathology, Washington, D. C., the appointment being subject to approval by the director of the Institute. The American Board of Dermatology and Syphilology, Inc., has approved the Institute as an institution for one year of training. It is required that a student must complete one year of graduate training, either before or after completion of the Osborne Fellowship, in an institution approved by the Board for three years of training.

Dermatologists in training who are interested in this fellowship may obtain application blanks from Dr. Hamilton Montgomery, chairman of the Committee on Pathology of the American Academy of Dermatology and Syphilology, 200 First Street Southwest, Rochester, Minnesota.

* * *

The International College of Surgeons is offering a scholarship to a young Canadian or American surgeon who wishes to study abroad, the organization announced recently. The scholarship will be in the amount of $3,000 to pay for transportation and living expenses for a period of 12 months. The physician selected will be expected to spend at least ten months of the year as a resident or fellow in a teaching center in one of the countries of Europe or South America. Details concerning the qualifications of applicants may be obtained from The Scholarship Committee, International College of Surgeons, 1516 Lake Shore Drive, Chicago 10, Illinois.

* * *

The first **Medical Service Personnel Procurement** office for the Regular Army and Army Reserve has been opened at Stillwell Hall, Presidio of San Francisco.

The office was established to facilitate the release of information about the Army Medical Service to doctors, dentists, veterinarians, Medical Service Corps and Women's Medical Specialist Corps.

Major Frederic C. Buck, who was given the assignment of opening the office, will handle inquiries on the doctor's draft law, Army internship and residency programs, opportunities and benefits in the medical service, graduate professional education, programs, and specialist opportunities in the Army.

POSTGRADUATE EDUCATION NOTICES

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Announces the following spring courses:

Application of Principles of Industrial Medicine to Private Practice—February 2-March 23, 1955.

Treatment of Emotional Problems in Office Practice—February 10-April 14, 1955.

Removal of Foreign Bodies from Lung and Bronchi—February 11-12, 1955.

Photomicrography—February 16-March 23, 1955.

Dermatology in General Practice—February 16-March 23, 1955.

Pathological Physiology—February 21-May 9, 1955.

Advanced Psychiatric Case Seminar—March 1-April 19, 1955.

Annual Surgical Lecture Series—March 9-May 25, 1955.

Diagnostic Psychological Testing—April 14-May 9, 1955.

Plastic Repair of Superficial Wounds—April 22 and 23, 1955.

Techniques of Surgery of Malignancies of Oral Cavity, Maxillary, Parotid Gland and Neck—April 25 and 26, 1955.

Physiology, Anatomy and Surgery of the Temporal Bone—April 28, 29, 30, 1955.

Surgical Anatomy of the Thorax, Abdomen and Pelvis—April 28-May 23, 1955.

Obstetrics and Gynecology—early May.

Fevers of Unexplained Origin with Emphasis on Brucellosis—May, 1955.

4th Annual Laboratory Technicians Symposium—June 18 and 19, 1955.

Contact: Thomas H. Sternberg, M.D., Head of Division, Office of the Dean, School of Medicine, Division of Postgraduate Medical Education, U.C.L.A., Los Angeles 24.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

In San Francisco:

Electrocardiography for Beginners—January 31 to February 4.

Advanced Electrocardiography—January 31 to February 4.

Therapy of Cardiovascular Diseases—January 31 to February 4.

Atomic Energy Medicine—February 24 to February 27.

Course for General Practitioners—March 7 to March 11.

Symposia on Psychosomatic Medicine—March 23, 30, and April 6.

Recent Advances in Internal Medicine — April 18 to April 22.

Pediatric Conference—September (dates to be announced later).

Conference on Applied Therapeutics—October 17 to October 19.

Conference on Gynecology and Obstetrics—October 20 and October 21.

Ophthalmological Conference—December 5 to December 9.

In East Oakland:

Medicine for General Practitioners—Tuesday evenings, September 20 to December 6.

In Berkeley:

Postgraduate Conference—Wednesday evenings, September to December (dates to be announced later).

In San Mateo:

Evening Lectures in Medicine—Thursday evenings, September 22 to December 15.

Contact: Office of Medical Extension, University of California Medical Center, San Francisco 22.

STANFORD UNIVERSITY SCHOOL OF MEDICINE, SAN FRANCISCO

Spring Conference in Ophthalmology—March 21 through March 25.

Contact: Office of the Dean, Stanford University School of Medicine, 2398 Sacramento Street, San Francisco 15.

UNIVERSITY OF SOUTHERN CALIFORNIA AT LOS ANGELES

The Medical Extension Education Division of the University of Southern California School of Medicine announces:

Four Courses to be offered for twelve weeks starting January 6, 1955, as follows:

No. 841 Course — Basic Principles of Cardiorespiratory Physiology and their Clinical Application.*

No. 873 Course—Cardiac Resuscitation—Sponsored by the Los Angeles County Heart Association.

No. 864 Course—Pediatric Clinics for General Practitioners.

No. 846 Course—Seminars in Advanced Gastroenterology.

Contact: For application blanks or other information call or write to Division of Medical Extension Education, University of Southern California School of Medicine, 2025 Zonal Ave., Los Angeles 33, Calif. (CApitol 5-1511).

CHILDREN'S HOSPITAL SEMINARS

The Management of Metabolic Disturbances Commonly Encountered in Practice—January 22, 1955.

The Allergic Dilemma—February 26, 1955.

Infections and Their Management—March 26, 1955

Accreditation by the Board of General Practice has been granted. Gertrude F. Jones, M.D., Chairman, Medical Alumni Committee, Children's Hospital, 3700 California Street, San Francisco 18.

CALIFORNIA MEDICAL ASSOCIATION, POSTGRADUATE ACTIVITIES INSTITUTES

West Coast Counties—Santa Barbara—February 17-18, 1955.

San Joaquin Valley Counties—Yosemite—April 13, 14, 15, 1955.

Sacramento Valley Counties—Cal-Neva—June 16-17, 1955.

Contact: C. A. Broaddus, M.D., Director of Postgraduate Activities, P.O. Box AI, Carmel, California.

Medical Dates Bulletin

This bulletin of the dates of postgraduate education assemblies and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: C. A. Broaddus, M.D., P.O. Box AI, Carmel, California.

FEBRUARY MEETINGS

February 26—Children's Hospital Seminar: The Allergic Dilemma. Gertrude F. Jones, M.D., chairman, Medical Alumni Committee, Children's Hospital, 3700 California Street, San Francisco 18. Accreditation by the Board of General Practice has been granted.

MARCH MEETINGS

March 26—Children's Hospital Seminar: Infections and Their Management. Gertrude F. Jones, M.D., chairman, Medical Alumni Committee, Children's Hospital, 3700 California Street, San Francisco 18. Accreditation by the Board of General Practice has been granted.

* * *

California Medical Association: Annual Session, May 1-4, 1955, San Francisco.

American Medical Association: Annual Session, 1955, Atlantic City, June 6-10; Clinical Session, 1955, Boston, November 29-December 2.

California Society of Internal Medicine: October 1, 1955, Biltmore Hotel, Santa Barbara, Mildred D. Coleman, Secretary, 384 Post Street, San Francisco 8.

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*Course No. 841 is restricted to specialists—all other courses are open to graduates of Grade A Medical Schools who have completed an approved internship.

INFORMATION

Health Insurance and Medical Practice in Germany

GEORGE M. FIRESTONE, M.D., Santa Rosa

ALTHOUGH MUCH has appeared in the American literature on the practice of medicine in Great Britain since the enactment of its national health laws, very little has been presented on similar problems in other countries. The author had the opportunity during 1953, while on a tour of duty with the United States Army, of observing the practice of medicine in Germany.

At first glance, medical practice in Germany seems to exist much as it does in the United States, since almost 60 per cent of German physicians are in private practice. But when one notes that 80 to 90 per cent of the population have prepaid health insurance, the conclusion is apparent that a physician in "private practice" cannot exist unless he is at the same time on the panel of one or more of the health insurance companies.

Although much of the health insurance in Germany is written by private companies, the operations of these companies are governed strictly by federal law. The historical development of this situation is of interest.

The basic philosophy of government and responsibility in Germany has always been distinctly different from that in the United States. In the United States the individual citizen has always been the prime mover and has established a government characterized by specific limitations of its powers so that it will always be subordinate to him. On the contrary, in Germany, governments beginning in the Middle Ages have been centralized in the hands of the chiefs of government, be they feudal lord or prince. The individual living under his jurisdiction has had little to say regarding the decisions of this government until very recent years, namely the end of the Nineteenth Century. Indeed, during much of the period before this, the individual "citizen" was at worst a slave and at best a "share cropper" with all the dependency that this implies. Later, even with the development of "democracy" the people of the country retained the habit of looking not to themselves but to the government for all leadership and help in economic, social and political matters.

With the advent of the industrial revolution and the movement of people from rural areas into the cities, a large working class developed which had lost the few social and economic safeguards it had previously possessed and was left stranded with a low income and marginal subsistence. A similar thing happened in the United States, but, because of a different basic philosophy, the individual here sought to improve his own status with little help or interference from the government. In Germany the government assumed the responsibility for coping with this situation. Accordingly, between 1845 and 1911 a series of laws establishing numerous social benefits were enacted under the German Kaiser. These included the establishment of compulsory prepaid health insurance for certain classes of workers as well as accident insurance, compensation laws, old age insurance, and "invalidism" insurance. As a result of these laws all classes of people other than those who were self-employed or those who were on a monthly salary were brought under a compulsory health program. Since that time, health insurance companies have also been developed for salaried individuals, and other companies have come into existence to take care of the self-employed. At present 80 to 90 per cent of the population of Western Germany is covered by prepaid health insurance. Insurance against sickness is compulsory for those whose income is less than 6,000 DM* a year. Unemployment, old age and invalidism insurance is compulsory for all whose yearly income is less than 9,000 DM. Half the insurance premium is paid by the employee, half by the employer.

These insurance plans, although governed by federal German law, are operated individually by private companies or local government districts. Large factories, local rural districts, individual cities, and federal government "corporations" such as the German railway, operate their own companies, each a company for the benefit of the wage earners under its jurisdiction as well as for all members of the workers' families. A second group of private companies (Ersatzkassen) supplies prepaid insurance to salaried individuals of the "white collar class." There is a third group of private health insurance companies, like companies in the United States, that reimburse the patient for a portion of his medical expenses according to the premiums he pays, but do not provide a prepayment plan. Other insurance companies have been formed to pay for dental expenses, orthopedic appliances and glasses.

Submitted August 31, 1954.

*One DM (DeutschMark) equals approximately $0.27 American.

The prepaid health insurance plans as operated by the first two groups of insurance companies, finance almost all medical care that a patient may require. This includes payment of the patient's physician for his services, for diagnostic workup and treatment, payment of the complete hospital bills, payment for all drugs purchased from pharmacies (except for a 0.50 DM prescription fee which the patient pays). It also includes transportation for the patient from his home to the physician's office or hospital, including street cars, buses or trains, and in addition to the above, includes a .50 DM fee per day to all hospitalized patients for "pocket money." Patients who are confined to bed at home are paid a variable proportion of their basic income for the duration of their illness. The insurance does not cover preventive medicine, nonessential plastic surgical treatment, difficulties due to old age, hereditary disease, pneumothorax, employment examinations or normal pregnancies and deliveries.

In 1950 there were 63,000 physicians in West Germany, according to official estimate. Of these approximately 36,500 were self-employed, while 27,000 worked on salary for a hospital or other organization. In 1953 (when the author was in Germany) these figures had not changed much. The total population of West Germany in 1953 was 48,000,000, making an overall ratio of one physician to 750 persons. According to most local sources this represented an oversupply of physicians and was largely due to three factors. The first was the policy of the German government during World War II to increase the number of students in medical schools. The second was the currency reform program of 1948, which wiped out almost all private savings in Germany and so prevented older physicians from retiring as they might otherwise have done. The third factor was the postwar migration from Germany's east zone of large numbers of physicians who, like others of the middle class, found that they could not exist under the Communist regime.

The average self-employed physician in Germany nets approximately 700 DM a month. In terms of buying power this would compare to approximately $400 a month in the United States. In order to receive this income, a physician must see approximately 50 patients a day. Physicians employed by hospitals receive monthly pay according to the following schedule: Interns, between 50 and 120 DM; ward physicians, 500 to 700 DM; assistant chiefs of service, 600 to 800 DM; chiefs of service, 800 to 1,000 DM.

Since between 80 and 90 per cent of the population is covered by prepaid health insurance, a self-employed physician finds it practically impossible to exist unless he has a contract from a health insurance company. At present it is almost impossible for a new physician to be placed on an insurance company panel unless he can find work as assistant to a man already on the panel, or has a special "pull" with the company. Similarly it was difficult prior to 1953 for a young physician to find employment in a hospital although this situation has now eased somewhat. The net effect of the control of medical practice panels by the insurance companies has been that many physicians have been forced to seek employment outside their profession, and all in private practice must follow the wishes of the companies or risk losing their contracts.

Physicians and hospitals in Germany do not receive payment for their services directly from the health insurance companies. The health insurance companies function to collect premiums, paid partly by employer and partly by employee, which are proportionate to the wages of the insured workers. The funds so collected are paid to a clearing house, which, in turn, has received claims for services from all the physicians on the panels of the particular company concerned. The insurance companies pay a fixed fee to the clearing house per patient per quarter year. The clearing house must then divide this money among the claimant physicians according to the types and number of procedures performed by each physician in the preceding period.

Since the insurance companies are local organizations operating in small areas, it is immediately obvious that if a company is operating in a field where its members receive low wages or where there is much unemployment, the physicians will receive little for their services. On the other hand, physicians on the panel of a company operating among a well paid group will receive higher remuneration for the same services. Unemployment is a particularly important factor since the health insurance company is required by German law to continue to pay for medical services for its members whether they are employed or unemployed. However, an unemployed person is required to pay no premium to the insurance company.

In addition to all this, the physician is limited in the number of claims he can submit for payment, since the insurance companies have ruled that a physician will be compensated for only a certain number of any one procedure per month. For example, a physician can claim payment for only so many house calls per month. He will not receive payment for any calls he makes above this arbitrary number.

In the case of hospital patients, the insurance company pays a fixed fee to the hospital per patient-day regardless of the type of case or the amount of care required. As in the case of payments to physicians, the specific fee depends on the available funds of the insurance company. As this fee must cover laboratory, operating room and physicians' salaries, as well as almost all the other expenses of running a hospital, the expenditures for each of these services must be scrutinized by the hospital director so that he may keep within his budget. In addition the insurance companies employ physicians whose sole function is to check on treatments both in and out of hospitals so that expensive drugs or procedures will not be used where something else "will do."

The health insurance companies have contracted to pay for all drugs prescribed except for a small fee of 0.50 DM which is assumed by the patient on each prescription. However, the insurance companies have set a policy of paying no more than a prescribed fee to the druggist per patient per quarter year regardless of specific drugs used. In the area in Germany in which the author resided, this amounted to 4.50 DM per patient per quarter year. It is true that drugs in Germany are somewhat less expensive than in the United States. Also the physician may prescribe expensive drugs for some patients if he prescribes correspondingly less for others. The only concern of the insurance companies is that the total drug cost for all the patients on the physician's panel will be within the allowed figure. It is obvious, however, that with this type of system the physician must be concerned more with the economics of drug therapy than with the indications in any given case.

Self-employed physicians have control of their patients only as these patients are seen in their offices or at home. When a patient is hospitalized, care of him is turned over to the staff of the hospital, the local physician having no further contact with the patient until he has been discharged from the hospital.

In this brief discussion, the author has made no effort to describe the quality of patient-care or the current level of medical knowledge in West Germany, since that is another problem. An insight into the former might be gained, however, from the observations that "insurance" patients in hospitals are usually given what is called "third class accommodations"; from the further observation that the average physicians must see about 50 patients per day in order to earn his "average" income; and from the fact that the cost of treatment is controlled by the insurance companies.

In summary it may be noted that the German tradition of looking to government for all social and economic aid has led to a system of federally supervised compulsory prepayment health insurance covering almost 90 per cent of the population of West Germany. It has become the rule for the insurance companies to dictate the cost and therefore the amount and quality of inpatient and outpatient services which the patient receives. It has been possible for the insurance companies to hold an economic club over the physician and thus control both him and his practice.

(Perhaps the best illustration of this situation is the deliberate omission from the authorship of this article of the name of the German physician who collaborated in assembling the material presented here, and without whose help this paper would not have been possible. This omission was made at his direct request despite his agreement with the facts and conclusions presented, since by the mere fact of his association with the authorship of an article of this type he would subject himself to the possible reprisals of the insurance companies on which his livelihood depends.)

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THE PHYSICIAN'S *Bookshelf*

ISOTOPIC TRACERS — A Theoretical and Practical Manual for Biological Students and Research Workers. G. E. Francis, Reader in Biochemistry, St. Bartholomew's Hospital Medical College; W. Mulligan, Senior Lecturer in Biochemistry, Glasgow University Veterinary School, and A. Wormall, Professor of Biochemistry, St. Bartholomew's Hospital Medical College. University of London, the Athlone Press, 1954. Distributed by John de Graff, Inc., 64 West 23rd Street, New York 10, 1954. 306 pages, $7.00.

This book is divided into two parts. In the first part the theoretical principles underlying the preparation and measurement of radioactive and stable isotopes, their use as biological tracers, practical information concerning techniques, instrumentation, hazards and precautions in the use of radioactive isotopes, etc., are discussed.

The second part of the book contains detailed instructions for a course of practical exercises.

This book represents a summation of the lectures and demonstrations given by the authors at the St. Bartholomew's Hospital Medical College. These lectures particularly were adapted to meet the needs of selected undergraduates and graduates in science or medicine taking the London Hons. B. Sc. (Special Physiology) examination. These candidates had used or desired to use isotopes in their own researches in biochemical and physiological investigations.

The equipment described and used in this book was manufactured in Great Britain.

The authors emphasize that there is a real and increasing need for training centers where biological workers can acquire a knowledge of, and particularly practical instruction in, the use of Isotopic Tracer Methodology.

It is the hope of the authors that this book will be used as a practical laboratory handbook rather than a library reference book.

This book will be a valuable addition to the armamentarium of all biological students and research workers. The use of radioactive isotopes for diagnostic and therapeutic purposes has attained a prominent position in both the clinical and research aspects of medicine. This book will be of limited interest to the physician not directly concerned with the use of isotopes for investigation.

* * *

PRACTICE OF ALLERGY. Warren T. Vaughan, M.D., Richmond, Va. Third Edition revised by J. Harvey Black, M.D., Dallas, Texas. The C. V. Mosby Company, St. Louis, 1954. 1164 pages, $21.00.

This *Practice of Allergy* by Warren T. Vaughan, with additions and revisions by one of his many friends, J. Harvey Black, also a renowned pioneer in allergy, continues to be the most important extended treatise in the field of clinical allergy. The profession is fortunate that this masterfully conceived and written volume continues to be available for present day students and also physicians in other specialties who are interested in clinical allergy, all of whom should know this contribution and have it readily available for frequent reference. Dr. Black's many additions and revisions, moreover, justify the possession of either the second edition or especially this third edition even though the first edition has been in the physician's library for many years.

Dr. Vaughan's authoritative discussion of the history, terminology, experimental anaphylaxis and its identity to clinical allergy, and the immunology and pathology of clinical allergy have required little or no revision. His chapters on the frequency of allergy, heredity, minor and major allergies, the effects of climate and environment, the methods of history taking, skin testing, passive transfer, mucous membrane and patch tests, and other diagnostic procedures have changed little since the first edition. The specialty owes a great debt to Dr. Vaughan for his discussion and emphasis of clinical food allergy, along with the equally important inhalant allergy. The study of food allergy through history and diet trial and the errors inherent in test-negative diets receive proper attention in this work. The origin and relationship of all foods and condiments are important for reference. The section on pollens, the revised surveys of all individual states and other countries, and the diagnosis and treatment of pollen allergy are duly stressed and amplified. The book retains a most informative discussion and classification of fungi and discussion of the diagnosis of fungus allergy and the relative importance of fungi in clinical problems. Bacterial allergy continues to be, in the writers' opinions, of minor clinical importance. Drug allergy, of increasing frequency before and since the first edition of the book, receives present day consideration. The use and indications for cortisone and corticotropic hormone and the antihistamines are discussed. The causes of contact allergy and the accepted methods of study are presented.

New and important chapters on pulmonary function studies, the physiologic interpretation of clinical allergy, including the work of Selye, perennial hay fever, important additions to the pharmacology of allergy, histamine cephalalgia, the most recently revised elimination diets with their menus and recipes, and other subjects and phases of clinical allergy have been included by Dr. Black. In future additions a main challenge will be a more extended discussion of the many manifestations of allergy as encountered in practice.

* * *

MANAGEMENT OF PAIN, THE—With Special Emphasis on the Use of Analgesic Block in Diagnosis, Prognosis, and Therapy. John J. Bonica, M.D., Director, Department of Anesthesia, Tacoma General and Pierce County Hospitals; Clinical Associate, Department of Anatomy, University of Washington Medical School. Lea & Febiger, Philadelphia, 1953. 1533 pages, 785 illustrations on 44 figures and 52 tables, $20.00.

Since pain is the most common organic symptom which compels the patient to seek medical assistance, it is to be expected that a monograph on its management could justifiably include a major segment of the problems of clinical practice. As Bonica's discussion is followed, it develops that this book lives up to such an expectation. Entities from the neuralgias and control of pain in terminal cancer to such unexpected and tenuously related subjects as diabetes mellitus and megalocolon are considered. The discussion includes not only the technical aspects of pain management, but etiology, pathologic physiology, symptomatology, and differential diagnosis of many situations. The evaluation of therapy deals with both medical and surgical methods, as well as the interruption of pain pathways. Though theory is not the principal thesis of the book, the anatomic and physiologic factors of pain as we think of them today have not been omitted.

There are some controversial proposals which seem to be handled dogmatically, but such is the author's prerogative; in general, the discussion is sound and well supported. The substantial bibliography will serve as a basis for more extensive delving into the field by any who may be so minded.

An encyclopedia of therapeutic possibility rather than an attempt at a major contribution to fundamental understanding of pain, the volume will have something of value for most clinicians.

* * *

APHASIA THERAPEUTICS. Mary Coates Longerich, Ph.D., and Jean Bordeaux, Ph.D. The Macmillan Company, New York, 1954. 185 pages, $3.75.

This is a short book which should be of considerable value to workers in the field of retraining patients with aphasia. It can be read with profit both by the individual directly responsible for the training, and by the physician who directs the training. The treatment is strictly practical, and it is in this regard that the book has its greatest use.

* * *

DIENCEPHALON — Autonomic and Extrapyramidal Functions. Walter Rudolf Hess, M.D., Professor of Physiology, Emeritus, University of Zurich, Switzerland. Grune and Stratton, New York, 1954. 79 pages $4.00.

This is a brief account of Professor Hess's exploration of the function of the diencephalon by means of his highly developed technique of stimulation and destruction of this portion of the brain in animals. With the greater interest shown in recent years in this region, it is fortunate that this work has been made readily accessible to English speaking neurophysiologists.

* * *

CLINICAL MANAGEMENT OF BEHAVIOR DISORDERS IN CHILDREN. Harry Bakwin, M.D., Professor of Clinical Pediatrics, and Ruth Morris Bakwin, M.D., Associate Professor of Clinical Pediatrics, both of New York University. W. B. Saunders Company, Philadelphia, 1953. 495 pages, 14 figures, $10.00.

The Bakwins have written an encyclopedic book on emotional disturbances in children. They have included a varied and valuable bibliography at the end of each chapter. The book is nicely organized so that normal growth and development and care lead into discussions of emotional disorders of increasing severity. The chapter on history taking and examination of the emotionally disturbed child is for the most part an excellent one as are their chapters on growth and development and psychological testing. The book leans toward present day dynamic concepts of child psychiatry but these concepts are only partly integrated in the material presented. The authors' efforts to include and encapsulate every possible emotional disturbance of childhood both oversimplify much of the material and fail to present some of the evidence which would make certain assertions reasonable. Perhaps the key to the whole book is found in the second word of the title, "management." The effort to instruct the pediatrician on how to "manage" the disorder or the child in a definite, prescribed manner is the book's chief drawback. The prescriptions that follow some excellent descriptions of the disorders illustrate the split between dynamic concepts and dogma. Such statements as "Jealousy begins at two years," "Most infants can be (bowel) trained by 11 to 14 months and some earlier," "Bladder training is best started at 12 to 16 months of age," etc., are illustrative of the arbitrary prescriptions not consonant with present day thinking in child psychology.

One would hope that a textbook which covers such a wide range of children's problems so exhaustively would approach these problems in the light of recent thinking about the child as an integral part of his family and that his emotional illnesses and their treatment would be considered in the same context. This defect is especially evident in their discussions of sleep disturbances, anorexia and obesity.

Perhaps the greatest failing in the book is the attitude that one need only to look to the appropriate chapter and page to find the "open Sesame" to the management of each disorder.

This book's chief value to the pediatrician may be that he will be encouraged to try to handle some of the emotional problems of children himself. When he finds the prescriptions not too helpful he may rely on his own experiences gained in human relationships and may find he can be of some help to the child and his parents.

* * *

PROGRESS IN NEUROLOGY AND PSYCHIATRY—An Annual Review—Vol. IX. Edited by E. A. Spiegel, M.D., Professor and Head of the Department of Experimental Neurology, Temple University School of Medicine. Grune & Stratton, New York, 1954. 632 pages, $10.00.

This perennially excellent review of progress in neurology and psychiatry retains its high standards. The contributors are well chosen, and there is little of the duplication that frequently mars such a composite effort. The reviews are sufficiently detailed to satisfy the specialist; for this reason this is not a book to sit down with of an evening in the hope of being briefly and painlessly brought up to date in the broad aspects of advances in the neuropsychiatric field. It is of much greater value as a short cut to the current literature by those closely associated with the specialties. It is an excellent reference work.

* * *

PSYCHOANALYSIS AND THE EDUCATION OF THE CHILD. Gerald H. J. Pearson, M.D., Dean, Institute of the Philadelphia Association for Psychoanalysis. W. W. Norton & Company, Inc., 1954. 357 pages, $5.00.

Dr. Pearson has written a book of value to everyone concerned with the learning process. Here for the first time, to my knowledge, is assembled much of the psychoanalytic thought on education both historical and current. As is usual with Dr. Pearson, this book is well written in his lucid, easy-to-read style.

From the introduction and from the table of contents one is led to hope for a presentation of the recent developments in understanding of ego psychology as it applies to education. Although part two of the book is labeled "Ego Psychology and the Education of the Child" this is in no way a distillation of current thinking and synthesis of what has been learned from more extensive and intensive therapeutic efforts with psychotic children and adults. The accent is still on oedipal problems, castration fears, repression of sexual curiosity, rather than on the increasing body of information about how the early infant-mother relationship and the problems of orality affect the capacity to learn. Pearson does mention these in passing. but it is striking how little attention is paid to these fundamental aspects of the child's early experiences and what we have learned is the effect of these experiences on learning and creativity. In this sense the book is disappointing. It is also of interest that the focus of the book is on the individual child and his problems rather than the family and its problems since most educators and persons concerned with mental hygiene in recent years have begun to shift their attention to the total situation from which the learning problems stem. There are also some prescriptions of helpful attitudes for teachers which contain the usual pitfalls of any prescriptions about how someone should behave for someone else's benefit.

Despite these shortcomings, this is a valuable book which should be read by those interested in education and the psychology of learning.

* * *

THE YEAR BOOK OF OBSTETRICS AND GYNECOLOGY—1954-1955 Series. Edited by J. P. Greenhill, B.S., M.D., F.A.C.S., Professor of Gynecology, Cook County Graduate School of Medicine. The Year Book Publishers, Inc., 200 East Illinois Street, Chicago, 1954. 544 pages, $6.00.

The 1954-1955 Year Book of Obstetrics and Gynecology represents the annual review of the literature in this field. It contains in addition the opinions of the editor and his reactions to the various articles. The work is almost evenly divided between obstetrical and gynecological subjects with 247 pages devoted to the former and 229 to the latter. There are 18 titles on toxemia of pregnancy reviewed, 24 on obstetric hemorrhage, and 41 on gynecologic cancer. This is a fairly accurate representation of current interest in these fields. Only 14 titles are devoted to pelvic and obstetric infections. There are 40 pages devoted to operative gynecology.

In general, this issue continues to fulfill the useful and well accepted place which The Year Book has established for itself in obstetrical and gynecological reference works.

* * *

BIOCHEMISTRY AND HUMAN METABOLISM—Second Edition. Burnham S. Walker, M.D., Ph.D., Professor of Biochemistry; William C. Boyd, Ph.D., Professor of Immunochemistry, and Isaac Asimov, Ph.D., Assistant Professor of Biochemistry, all from Boston University School of Medicine. The Williams and Wilkins Company, Baltimore, 1954. 904 pages, $10.00.

The statements of the reviewer concerning the first edition of this textbook (Calif. Med., 77:36, 1952) apply as well to the second edition and some of them will bear repeating. "The book has a freshness and vitality in its outlook and presentation which is distinctive among biochemistry textbooks written for medical students." "The first chapter is devoted to proteins, the basic material in cell structure and function. The authors do not attempt to precisely definite proteins, but describe them as 'large molecules, of molecular weight of the order of several thousand to several million, occurring in the tissues of plants and animals and containing carbon, hydrogen, oxygen and nitrogen, and sometimes other elements, and constructed largely from amino acids.' This definition differentiates proteins from other compounds of biological interest, although not by any means describing this class of substances, whose members differ so much from each other."

The general plan of the book has not been altered in the second edition. In the 78 additional pages the authors have been able to bring the subject matter up to date by reorganizing and partly rewriting Chapter 1 and including Appendix IV on acids and bases of the first edition in this chapter, entirely rewriting Chapter 14 and rewriting parts of most of the remaining chapters.

Although the development of the subject is in the traditional manner, starting with the chemical units of the cells and tissues, namely proteins, amino acids, carbohydrates, fats, nucleic acid structure, etc., the titles for the five major divisions are different, namely I, Structure, containing chapters on Proteins and Amino Acids, Protein Structure, Tissue Chemistry and Blood; II, Control, describing Enzymes and Hormones; III, Growth, on Biochemistry of Nucleoproteins, Cancer and Reproduction; IV, Metabolism, on Food and Diet, Digestion, Diabetes, Lipid Metabolism, Starvation, Electrolytes, etc.; and V, Pathology, limited to Vitamins and Vitamin Deficiency Disease and Infection. There are also three chapters in the appendix on physical chemistry.

The new material includes a table on amino acid composition of proteins, the formula of gramicidin S, a new formula for glucose as *glucopyranose,* kinetics of enzyme action, role of triiodothyronine, adrenocortical hormones, nucleoproteins of viruses, schemes of decarboxylation of amino acids, effects of potassium excess, adoption of conventional skeleton formulas for ring compounds, formula for coenzyme A and role of isotopes in metabolic studies.

One is disappointed in the scant space devoted to metabolic changes in hormone structure and the basic actions of insulin, the omission of important monographs from bibliographies, such as Deuel's extensive monograph on lipids, and the lack of information on chemical effects of heavy metals and other poisons.

* * *

HANDBOOK FOR DIABETIC CHILDREN. Alfred E. Fischer, M.D., Associate Attending Pediatrician, Mount Sinai Hospital, New York City, and Dorothea L. Horstmann, Instructor in Dietetics, Mount Sinai Hospital, New York City. Intercontinental Medical Book Corp., 381 Fourth Avenue, New York 16, N. Y., 1954. 63 pages, $1.75.

This little volume recognizes a definite need, namely information on diabetes which is suited by content and presentation to the young diabetic. Most such booklets refer chiefly to the elderly person whose diet requirements are different and who is likely to need orientation on the arteriosclerotic complications of diabetes.

Its usefulness to the individual doctor in practice will depend on whether his dietetic teaching is in the same philosophy and terminology and whether he can take the time to explore with the child and his parents the facts and feelings necessary to understand and accept his problem. It is a commendable effort to fill a real need but will not take the place of personal interpretation and direction by the doctor.

* * *

SURGICAL UROLOGY—A Handbook of Operative Surgery. R. H. Flocks, M.D., Professor and Head, Department of Urology, and David Culp, M.D., Assistant Professor of Urology, both from the State University of Iowa College of Medicine. The Year Book Publishers, Inc., 200 East Illinois St., Chicago, 1954. 392 pages, $9.75.

"Surgical Urology" is a simply and clearly written book, up to the minute and thoroughly describing most of our present-day urologic operations. In one small volume the authors have ably correlated the physiologic, anatomic and surgical principles involved in operative urology. Numerous clear-cut black and white illustrations add greatly to the value of the book. These illustrations are full page, properly located and, while simply drawn, they permit a good understanding of the text. This is the most informative book of its type that has been published in years, and while quite elementary it would be a valuable addition to the reading table of the beginner or as a reference work for the occasional operator.

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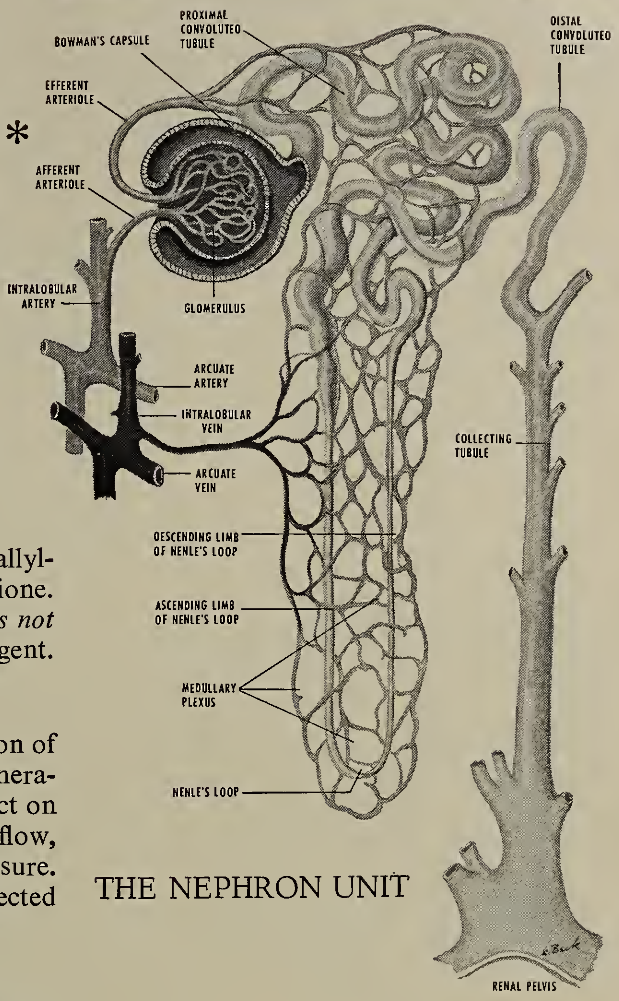
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Older Workers Eat Better Than Younger Ones

Workers about 65 eat more wisely than younger workers but they still need more milk, fruits, and vegetables, a Cornell University study has shown.

Researchers also found encouraging news for educators—advanced education is more important than higher income in forming good eating habits. Diets improved steadily among older workers as their education increased, while only slight improvement followed income increases.

The report on part of a study of occupational retirement was made in a recent issue of *Archives of Industrial Hygiene and Occupational Medicine,* published by the American Medical Association. Some of the major findings among 1,640 employees 64 years old were:

1. "A less than desirable milk usage was one of the most important faults in the diet of older employees." Protein intake was "less than desirable."
2. Only 10 per cent of the men and 7 per cent of the women had "adequate" diet ratings.
3. "Only 3 per cent of the men and 5 per cent of the women missed any meal during the day recorded; the meal most frequently missed was lunch."
4. "Two-thirds of the workers ate between meals . . . foods which were primarily carbohydrate were the commonest between-meal snacks."
5. During one day reported, 77 per cent of the men and 97 per cent of women drank no beer or alcoholic beverages; less than 10 per cent of either group used soft drinks.

"This survey shows that there is still a need to encourage the use by industrial workers of milk and its products and of fruits and vegetables, particularly citrus fruits, tomatoes, and green, leafy and yellow vegetables," the researchers said. Older persons still actively employed, however, "appear to eat in a pattern and at a level of adequacy in most instances equal or superior to that of younger workers previously studied."

"With increasing education there was increasing use of milk, eggs, fruits and vegetables high in ascorbic acid and . . . carotene, other vegetables, legumes, and breakfast cereals," the researchers said. "For both men and women, as the educational level rose, there was a steady increase in the percentage of subjects at each educational level who used some milk."

The number of servings of meat, bread and (among women) potatoes decreased with education; the use of sweets, soft drinks, fruits, and (among men) potatoes remained about the same. The overall adequacy of diet rose while habits about number of meals and between-meal eating changed little. The use of beer and alcoholic beverages also dropped off.

Income level made less difference in all these factors and there was only a slight tendency for overall

(Continued on Page 64)

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Older Workers Eat Better Than Younger Ones

(Continued from Page 58)

adequacy of diet to be higher at the higher income level. The researchers said this "refutes the often unsubstantiated claim that dietary differences are more closely related to income than education."

Three meals a day is still about par for older workers: 99 per cent ate three times or more. In fact, 66 per cent of the men and 70 per cent of the women ate four to seven times. About 97 per cent of men and 95 per cent of women missed no meals.

Breakfast usually consisted of toast, doughnut, sweet roll, or cereal, and some beverage other than milk, with about half of the workers eating eggs or other protein and fruit. At lunch, men and women had different ideas: men ate more sandwiches, milk, and full meals. Women ate more desserts, fruit, and nonmilk beverages. At dinner most workers ate meat, fish and poultry or casserole type meals, mostly with nonmilk beverages. Few ate sandwiches for dinner: about half had sweet desserts and one-fourth fruit.

About one-fifth of the workers used no sweets—meaning cake, candy, cookies, doughnuts, jams, jellies, pies, and ice cream. However, over one-fifth of

(Continued on Page 68)

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Older Workers Eat Better Than Younger Ones

(Continued from Page 64)

the men and one-fourth of the women ate sweets three or more times a day.

Other findings about kinds of food eaten were:

Over two-fifths of men and one-third of women had no rich source of ascorbic acid; two-thirds had no fruit or vegetable rich in vitamin A; more men than women used eggs and in larger quantities than women: 85 per cent of both used no legumes; over 99 per cent of both used bread or bread substitutes, with most eating more than three servings a day; about a third ate breakfast cereals, and about three-fourths used potatoes once a day or more.

Some Influenza May Appear This Winter or Next

Influenza outbreaks from one type of virus may occur in the United States this winter or next, a U. S. Public Health Service official said recently.

It depends on whether influenza continues to recur in a two- or three-year cycle as it appears to have been doing, according to Dr. Dorland J. Davis, chief of the laboratory of infectious diseases at the National Institutes of Health.

However, improved medical treatment and development of effective vaccines should help to protect against the disease, Dr. Dorland said in a signed editorial in a recent issue of the *Journal of the Amer-*

(Continued on Page 76)

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(This unposed photograph was taken during the patient's interview with her physician, a general practitioner. The case report is in his words.)

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Dexedrine★ Sulfate . . . . (dextro-amphetamine sulfate, S.K.F.)	5 mg.
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Dr. Schweitzer Describes Medicine In the Jungle

Dr. Albert Schweitzer, Nobel prize winner who celebrates his 80th birthday next month, recently told of conquering illness and opposition in Africa with the help of building tools, a knife, and baby shirts.

In a description of his 40 years in Lambarene, Dr. Schweitzer also expressed "heartfelt thanks to my American friends for the help I have received from them."

In an article in the *Journal of the American Medical Association,* Dr. Schweitzer said he arrived in Lambarene in the spring of 1913 with his wife, a trained nurse, and began his first jungle battle—building a hospital.

"All work progresses very slowly in the jungle, because trained and disciplined workers are not available," he said. "One has to deal with primitive natives, who do not have to do paid work to earn their livelihood. They work only as a sort of favor and when and if it suits them.

"During the free time left to me after treating the patients, I myself became an apprentice builder."

Until the building was ready, he treated patients in a former hen house next to his living quarters. The natives gave "complete trust and confidence from the beginning," largely because he could perform surgery.

"This alone makes it possible for the colonial physician to help many patients . . . the native soon realizes that the white physician is superior to his fetish doctor, when he learns that the white doctor knows how to bring cure with a knife."

However, he faced strong opposition from the primitive women who were convinced that no man should come near a woman while she is giving birth.

". . . when a delivery was in progress in a village all men had to remain in their huts," he said. "The births were directed by old women, who resorted to quite senseless procedures in difficult cases . . . the resistance on the part of the old women was great.

"However, I could master this situation in a very simple manner and without many words. Every baby who was born in the hospital was dressed up in a pretty little shirt and a pretty little bonnet, and when the mother returned to the village she was permitted to take along both of these garments.

"Among the natives the newborn infant has nothing on for many months, and it lies beside its mother completely naked. Great astonishment was created in the villages when babies born in the hospital had their own little shirt. Against this the old women could do nothing. It became customary for women to come to the hospital for delivery, and many children now remain alive who otherwise would have died."

Dr. Schweitzer also worked to conquer leprosy and sleeping sickness. In 1913 the chief problem was

(Continued on Page 76)

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MONILIAL: "12 (of 15) patients became asymptomatic . . . after one week." *

NON-SPECIFIC: "23 cases of cervical erosion were treated. 13 were apparently cured." *

**Gernard, Henry C., and Gallagher, Robert: Obstetrics & Gynecology, 2:522 (November) 1953.*

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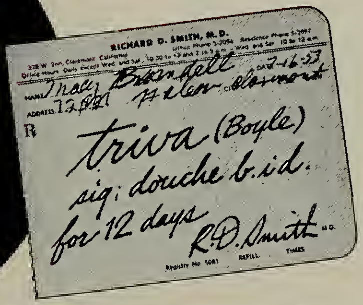

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Irradiated Blood Plasma Tried on Volunteers

Experiments with prison volunteers have shown that ultraviolet radiation is of some help in the problem of liver infection from blood plasma transfusions.

Physicians from the National Institutes of Health, Bethesda, Md., said that although ultraviolet radiation apparently does not prevent infection from hepatitis-carrying plasma. it can reduce the length and severity of illness.

Their report in a recent issue of the *Journal of the American Medical Association* is on part of a series of tests started in 1950 when the problem of infection from plasma had become "pressing."

Plasma known to contain infectious material was given to 59 volunteers at federal prisons in Lewisburg, Pa.; McNeil Island, Wash., and Ashland, Ky. Part of the plasma had been irradiated and part had not.

Cases of hepatitis of "widely varying severity" were found among men given irradiated and unirradiated plasma. Of those who showed symptoms, 20 had received irradiated and 22 unirradiated plasma. Of those who showed no symptoms, 10 had received irradiated and 7 unirradiated plasma.

However, more cases of long duration occurred among those getting untreated plasma. Another difference was a lengthening of the incubation period in those getting treated plasma. This group also had milder illness, indicating that "irradiated plasma may be less hazardous to the recipients than unirradiated plasma."

Epilepsy Death Figures May Be Misleading

Reported figures on total deaths caused by epilepsy may be very misleading, two Milwaukee doctors recently stated. They said epilepsy is not a common or frequent cause of death.

Drs. Edward D. Schwade and Owen Otto, in a recent letter to the *Journal of the American Medical Association*, said their study of Wisconsin State Board of Health reports indicates that epilepsy death figures are too large and that many deaths attributed to epilepsy are the result of accident or some other illness.

They said, "under adequate medical control with patient and critical guidance and understanding of his problem," the epileptic "is substantially a mortality risk no greater than the average normal person."

The Wisconsin statistics showed that 70 deaths—of an annual total of 34,839—were attributed to epilepsy, or about two per 1,000 deaths. However, an analysis indicated that 44 of the cases were caused by lung, heart, and circulatory disease, or a variety of other conditions including influenza and rheumatoid arthritis. The two physicians said this would cut the total of "epileptic deaths" to 26, or less than one per 1,000 deaths.

A number of these, they said, were accidental deaths following seizures, such as falls and drownings, and could be prevented by careful guidance. Only 14 of the 70 deaths actually occurred during status epilepticus (a series of rapid convulsions between which there are no periods of consciousness).

The physicians said they found it "startling" that 70 deaths were listed as "due to epilepsy" and said that in such official reports, epilepsy should not be listed as the cause unless it is the direct or accidental result of seizures.

Teenage Fatigue May Be Perfectly Normal

Teenagers who are often tired and mope around the house may be ill—but are more likely to be quite normal, a New York physician said recently.

Dr. Edward A. Wilkes said teenagers tire easily for one or more of a dozen reasons, and that most of the problems can be solved without expert help. He described the causes of fatigue in a recent issue of *Today's Health*, published by the American Medical Association.

The major reasons for normal fatigue are rapid growth, too little sunshine and outdoor exercise, social and school pressures with overstimulation and difficulty in sleeping, poor diet or overweight, and common teenage emotional problems.

"Fatigue is natural for many a healthy, fast-growing adolescent," he said. "Moping and apparent indolence may be nature's way of slowing down body movement to withstand the strain of excessive growth. Wise parents will make sure their teenagers get enough rest."

Teenagers also need extra protein, and daily diet should include a quart of milk, fish or meat, eggs, a variety of green vegetables and fruit, including citrus fruit, and whole grain or enriched bread or cereal. Breakfast should be generous, even if the teenager's fatigue is due to overweight and he is on a diet. Reducing diets should be carefully supervised, since fatigue also may come from dieting fads common among teenagers.

"Many teenagers tire because they are unhappy or full of worries," he said. "These vague, ill-defined sources of adolescent anxiety" may cause the teenager to daydream he is a hero in compensation for lack of confidence and independence.

However, illness may be the cause of fatigue and continued tiredness calls for a detailed check-up.

"In summary, teenage fatigue may be a normal accompaniment of rapid physical growth, may stem from illness or psychological cause, or may be due to one or more contributing factors," Dr. Wilkes said. "Careful analysis by the physician, with your help, will usually solve the mystery and provide a clue to the proper remedy."

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Dr. Schweitzer Describes Medicine In the Jungle

(Continued from Page 76)

over. Now, he said, "the campaign against sleeping sickness has been won."

The use of American drugs also "produced the miracle" in treating leprosy. His first patient had suffered for years from severe, painful sores and "everything I had tried . . . had failed."

Then he used sulfones developed in America and "after a few weeks the sores became cleaner, and after some months they closed completely, so that this man who had been lying on his bed, a picture of misery, was now able to walk about. From then on leprous patients came in large numbers to my hospital and requested treatment."

Dr. Schweitzer said American help arrived during the middle of World War II when his pharmacy was empty and he didn't know how to pay for patients' food.

"It was due to American aid that my hospital could continue to operate during the Second World War, after I had been cut off from connections with Europe."

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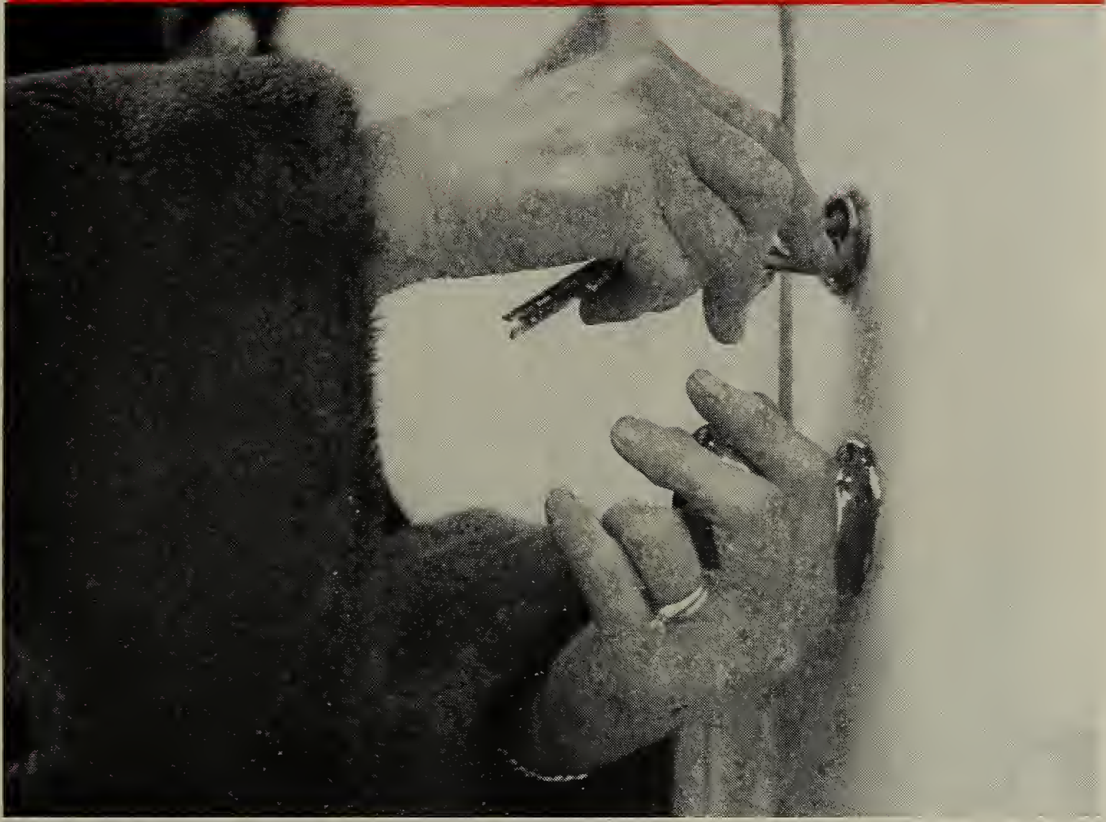

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REFERENCES: 1. Boland, E. W. and Headley, N. E., *J.A.M.A.* **148**:981, March 22, 1952. 2. Ward, L. E., Polley, H. F., Slocumb, C. H. and Hench, P. S., *J.A.M.A.* **152**:119, May 9, 1953. 3. Snow, W. B. and Coss, J. A., *N.Y. State J. Med.* **52**:319, Feb. 1, 1952.

Cabinet Committee to Study Narcotic Addiction; New Bills Seen

New legislation to help combat narcotics addition and to aid in the rehabilitation of addicts is expected to grow out of President Eisenhower's appointment of a cabinet committee to study the extent of the problem and state and local agency activity in this field. The President on November 27 named the following to a special committee: Secretary Oveta Culp Hobby of the Department of Health, Education, and Welfare, Attorney General Herbert Brownell, Secretary of the Treasury George Humphrey, Secretary of State John Foster Dulles, Secretary of Defense Charles Wilson and Bernard Shanley, special counsel to the President.

The President said an up-to-date survey is urgently needed along with a determination of what state and local groups have accomplished and are equipped to do in law enforcement and rehabilitation of addicts. He asked for prompt receipt of a report and added: "I know that devoted and strenuous attention is being given to the problem on a number of fronts, but we should omit no practical step to minimize and stamp out narcotic addiction."

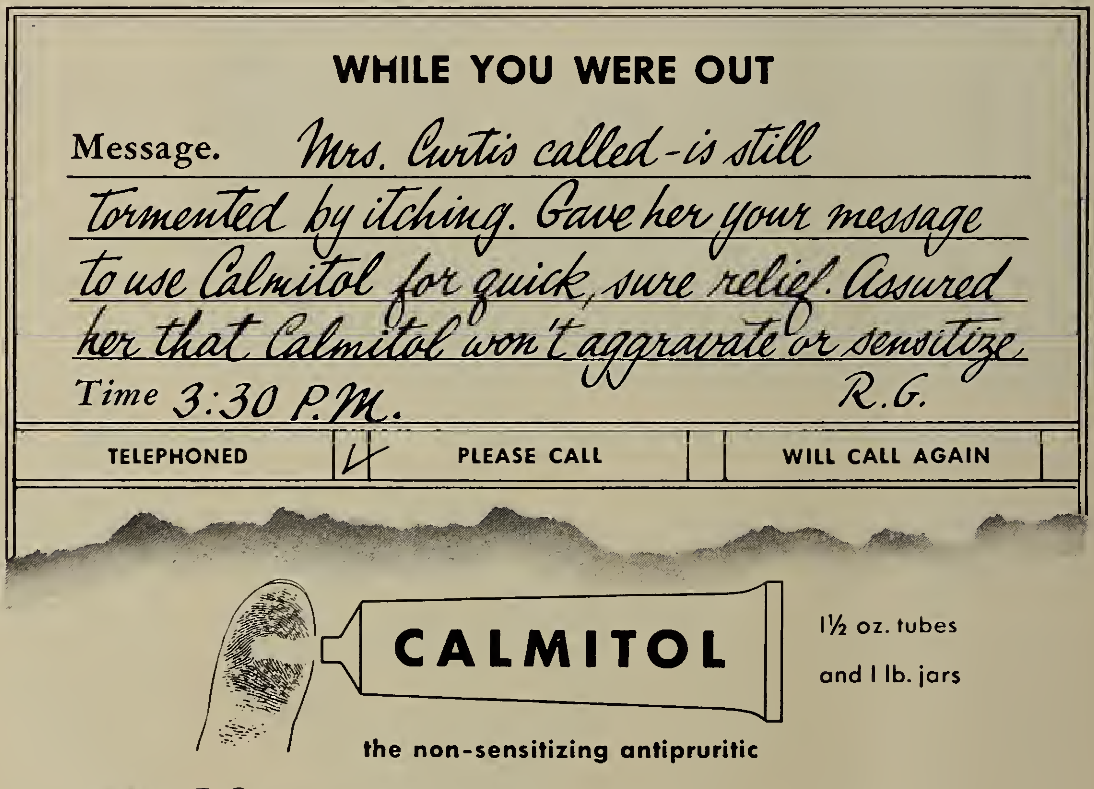
Enforcement of the basic narcotics-control law (the Harrison Act) has been in the hands of the Treasury Department since its passage in 1915. A bill introduced in the last Congress (H.R. 2449) by Rep. Bailey (D., W. Va.) provided for a pilot-type Federal Bureau of Clinics which would assist states in setting up treatment centers and rehabilitation programs for both narcotic addicts and alcoholics.

—*A.M.A. Washington Letter*

Federal Study Estimates 20 Per Cent of Medical Care Paid by Insurance

A Social Security Administration study of voluntary health insurance in 1953 discloses about 20 per cent of all medical care costs were paid by health plans. The study, which is part of a more extensive survey covering 1948-53 to be published by the agency next month, estimates the 1953 private medical bill at $9,866,000,000 and payments for benefits at $1,919,200,000. Other statistics: (1) expenditures for hospital services alone were covered to the extent of 41.4 per cent, and physicians' services alone were covered to the extent of 20.7 per cent; (2) physicians' bills accounted for less than a third (28.6 per cent) of all private medical costs, while hospital bills made up 29 per cent; medicines and appliances, 22 per cent; dentists' fees, 9.6 per cent; other professional services, 5.7 per cent, and health insurance, 4.9 per cent.

—*A.M.A. Washington Letter*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High Frequency Sound Waves Used to Ease Pain

High frequency sound waves have been used to relieve the unbearable pain of patients suffering advanced malignant diseases, a physician said recently.

Dr. P. A. Lindstrom, of the University of Pittsburgh School of Medicine, said ultrasonic radiation to seal off a small portion of the brain was used in 17 patients as a substitute for similar treatment previously undertaken by surgery.

He said results of the tests indicated that the technique also could replace this type of surgery in patients with some mental diseases, eliminating certain unfavorable side-effects of surgical lobotomy. There were no complications or ill effects from ultrasonic treatment, and studies of the brain showed no apparent tissue damage.

Ten of the 17 patients, who had been suffering excruciating, uncontrollable pain, had practically complete relief for weeks to months after treatment and were able to discontinue previously heavy narcotic medication. Four other patients felt decreased pain and were comfortable a good deal of the time with less noticeable pain and one case was a failure.

Dr. Lindstrom said a major advantage was that there was little apparent tissue damage in the brain as may occur in surgical lobotomy. He made his report in a recent issue of *Archives of Neurology and Psychiatry,* published by the American Medical Association.

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  Surgery of Colon and Rectum, One Week, February 28.
  Basic Principles in General Surgery, Two Weeks, March 28.
  General Surgery, Two Weeks, April 25; One Week, May 23.
  Gallbladder Surgery, Ten Hours, April 11.
  Fractures and Traumatic Surgery, Two Weeks, March 14.
GYNECOLOGY—Office and Operative Gynecology, Two Weeks, March 14.
  Vaginal Approach to Pelvic Surgery, One Week, March 7.
OBSTETRICS—General and Surgical Obstetrics, Two Weeks, February 28.
MEDICINE—Two-Week Course, May 2.
  Electrocardiography and Heart Disease, Two Weeks, March 14.
  Gastroenterology, Two Weeks, May 16.
  Gastroscopy, Two Weeks, March 21.
  Dermatology, Two Weeks, May 9.
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  Clinical Uses of Radio Isotopes, Two Weeks, April 25.
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Language Pattern Differs Among Mentally Ill

The kinds of words used, as well as the things said, are very similar in certain kinds of mental illness, two Harvard Medical School psychiatrists said recently.

Drs. Marie Lorenz and Stanley Cobb, Boston, counted different kinds of words and studied grammatical structure used during interviews with mental patients. They found language patterns to be a "common denominator" in certain types of illness.

Among major findings were that neurotic patients tended to use the first person pronoun "I" very frequently, and that language flexibility was very restricted among all patients. Some mentally ill persons interviewed used less adjective modifiers and others more verbs than a similar group of normal persons.

In an article in a recent issue of *Archives of Neurology and Psychiatry*, published by the American Medical Association, the physicians said that although our language is relatively fixed in structure, "different persons alter the arrangement and frequency of expression as much as the content of their communication."

"The person who draws attention to himself . . . will shift the balance of pronouns toward a preponderance of 'I' in contrast to the person who is concerned more with the auditor and draws 'you' frequently into the conversation," they said. Some persons use more words of implication than direct statement, some make observations while others draw conclusions, and some examine both sides of a proposition while others tend to see isolated, unrelated parts. The physicians concluded that "the active vocabulary is to a large extent a function of the psychological differences in . . . two persons."

Neurotic and psychotic persons studied were all more factual than descriptive when compared to normal persons. For some reason they tended not to qualify or differentiate their thoughts. They showed little inclination to move in thought away from a given point, but seemed to be preoccupied with a single theme. Their speech was not as varied as the normal and reflected monotony and repetitiveness.

"Habits of speech seem to reflect habits of orientation toward the self, external objects, and reality," the physicians said. "As a consequence, groups of persons who show certain psychological traits strongly will, when they speak, show similar tendencies in their use of language."

They said their study illustrates that language habits can be used to help diagnose mental illnesses, and "provide a medium for objective and verifiable demonstration of mental attitudes and processes."

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BOOKS RECEIVED

1ST SYMPOSIUM (INTERNATIONAL) ON MEDICAL GENETICS. Edited by Genetica Medica, Luigi Gedda. Edizioni Dell'Istituto Gregorio Mendel, Roma, 1954. 467 pages, with 168 illustrations and 2 color plates.

DIAGNOSTIC LABORATORY HEMATOLOGY. George E. Cartwright, M.D., Associate Professor of Medicine, College of Medicine, University of Utah. Grune & Stratton, New York, 1954. 104 pages, $3.00.

HANDBOOK OF RADIOLOGY. Russell H. Morgan, M.D., Professor of Radiology, Johns Hopkins University Medical School, Editor; and Kenneth E. Corrigan, Ph.D., Associate Professor of Radiology, Wayne University, Associate Editor. The Year Book Publishers, Inc., 200 East Illinois, Chicago, 1955. 518 pages, $10.00.

HANDBOOK OF TREATMENT. Harold Thomas Hyman, M.D. J. B. Lippincott Company, Philadelphia, 1955. 511 pages, $8.00.

KIDNEY, THE—Ciba Foundation Symposium. Edited by A. A. G. Lewis, M.D., for the Renal Association, and G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch, for the Ciba Foundation. Little, Brown and Company, Boston, 1954. 333 pages, $6.75.

MANUAL OF HAND INJURIES. H. Minor Nichols, M.D., Clinical Instructor in Surgery, University of Oregon Medical School. The Year Book Publishers, Inc., 200 East Illinois, Chicago, 1955. 352 pages, $9.50.

OPERATIVE ORTHOPEDIC CLINICS. Lewis Cozen, M.D., F.A.C.S., Assistant Professor of Orthopedic Surgery, College of Medical Evangelists, Los Angeles; and Alvia Brockway, M.D., Chief of Staff, Orthopedic Hospital, Los Angeles; in collaboration with Paul E. McMaster, M.D., F.A.C.S., Clinical Professor and Acting Head of Department of Orthopedic Surgery, University of California at Los Angeles Medical School. J. B. Lippincott Company, Philadelphia, 1955. 329 pages, 310 illustrations, $10.00.

PRACTICAL MANAGEMENT OF DISORDERS OF THE LIVER, PANCREAS, AND BILIARY TRACT. John Russell Twiss, M.D., F.A.C.P., Assistant Professor of Clinical Medicine, and Elliot Oppenheim, M.D., F.A.C.P., Assistant Professor of Clinical Medicine, both of New York University Postgraduate Medical School. Lea & Febiger, Philadelphia, 1955. 653 pages, $15.00.

PSYCHOSURGERY AND THE SELF. Mary Frances Robinson, Ph.D., and Walter Freeman, M.D. Grune & Stratton, New York, 1954. 118 pages, $3.00.

PULMONARY DISEASES. Edited by Roscoe L. Pullen, A.B., M.D., F.A.C.P., Professor of Medicine and Dean, University of Missouri School of Medicine. Lea & Febiger, Philadelphia, 1955. 669 pages, 195 illustrations, 4 plates, 1 in color, $15.00.

SANDOZ ATLAS OF HAEMATOLOGY. Edited by Dr. E. Undritz of Sandoz Research Laboratories. Sandoz Blood Atlas, 68 Charlton St., New York 14, 1954 (English edition). (Translated from German, 1952 edition.) 91 pages, plus 44 plates containing 579 color slides, $7.00.

TEXTBOOK OF CHIROPODY—2nd ed. Margaret J. McKenzie Swanson, B.Litt., F.Ch.S., Co-Founder of Edinburgh Foot Clinic and School of Chiropody. The Williams and Wilkins Company, Baltimore, 1954. 268 pages, $5.00.

TRANSACTIONS OF THE AMERICAN COLLEGE OF CARDIOLOGY—Vol. III, 1953. Edited by Bruno Kisch, M.D., Robert P. Glover, M.D., and Ashton Graybiel, M.D. American College of Cardiology, 140 W. 57th St., New York 19, 1954. 259 pages.

YEAR BOOK OF DRUG THERAPY, THE (1954-1955 Year Book Series). Edited by Harry Beckman, M.D., Director, Departments of Pharmacology, Marquette University Schools of Medicine and Dentistry. The Year Book Publishers, Inc., 200 East Illinois, Chicago, 1955. 592 pages, $6.00.

Rapid Decompression Causes No Lasting Injuries

Studies of Air Force experiment volunteers show that repeated exposure to rapid decompression at high altitudes apparently causes no long-term damage to the lungs.

Two former Air Force physicians recently said the studies indicate latent ill effects on health probably are not a hazard in commercial jet-powered passenger planes. However, they said "certain protective measures" should be taken in these jets in case of sudden loss of cabin pressure at very high altitudes. This sudden loss can cause acute injuries.

Drs. William W. Pryor, Durham, N. C., and Gerald Marks, Philadelphia, reported in a recent issue of the *Journal of the American Medical Association* on their work while at the Aero Medical Laboratory, Wright Air Development Center, Ohio.

The men they studied had been subjected repeatedly to rapid and explosive decompression, comparable to being raised from ground level to a height of one and one-half to two miles in less than three

(Continued on Page 104)

Spinal Anesthesia Study Shows Good Results

A study of 8,460 patients given 10,098 spinal anesthetics provides reassuring evidence against the possibility of nerve damage, two Philadelphia physicians said recently.

Drs. Robert D. Dripps and Leroy D. Vandam reported in a recent issue of the *Journal of the American Medical Association* on a four-year study of cases at the Hospital of the University of Pennsylvania. They said they found no major nerve damage from spinal anesthesia and were "convinced" that such damage need not follow spinal anesthesia.

They said their study stemmed from "a continuing healthy criticism of the agents and techniques used to achieve practical and safe conditions for surgical operations." While general anesthesia has been more widely criticized for its dangers, spinal anesthesia has been considered—by physicians and patients alike—as a possible cause of paralysis after surgery.

The physicians found some minor after-effects such as backache, pain in the lower limbs, and occasional weakness of leg muscles. However, some of these complaints also followed general anesthesia, and the majority of all complaints either disappeared later or became of little consequence.

"Anesthesia of any type places a stress on the patient," the physicians said. "A price is exacted for the pain relief and improved surgical working conditions that are provided during operation."

They said continuing efforts should be made to find agents and techniques which exact the lowest price for the greatest safety. The results of their study led them to feel that spinal anesthesia is a safe method, and fear of nerve damage should not prevent its use.

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Phosphorus ($CaHPO_4$)	110 mg. (14.6% MDR)
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1. Bender, T. J. Jr.: at Mtg. Med. Assoc. St. Alabama, Mobile, 1954.
2. Jessup, R., Murray, R. J. and Rossi, A.: Amer. Pract. & Dig. of Treatment, 5:792, 1954.

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Fainting Is Its Own Cure; Leave Victim Alone

The best way to "cure" a faint is simply to leave the victim lying flat, according to a New York City physician.

This is because a faint actually is a cure in itself, Dr. Alfred Soffer said. It's nature's way of giving the body a short adjustment interval to recover from sudden changes in blood movement.

"Fainting occurs when deep-lying blood vessels throughout the body, but particularly in the leg muscles and abdominal organs, are temporarily widened by paralysis or active dilation," he said. "This dilation—the result of complex nerve impulses—may be brought on by fright, shame, drug reactions, temperature sensitivity, pain and sudden blood loss.

"Contrary to popular belief, heart disease is rarely responsible for fainting," Dr. Soffer said in a recent issue of *Today's Health* magazine, published by the American Medical Association.

Changes in circulation may cause oxygen shortages in blood moving through the heart and brain. These make the body's protective mechanism work overtime. The body can meet this "challenge," but an adjustment period is needed. A faint and a fall to the ground is nature's way of getting stagnant blood moving back to the heart and brain.

"Forcing a fainting person to sit up will only prolong the unconscious state, and may initiate irreversible damage," Dr. Soffer said.

He also advised loosening a victim's collar to take pressure off sensitive neck blood vessels. Giving him a drink of sweetened fluid after he recovers may help, particularly if he is sensitive to hunger faintness. But aromatic stimulants are of slight importance compared to the value of having the patient lie flat. This is nature's own wise remedy, Dr. Soffer said.

Rapid Decompression Causes No Lasting Injuries

(Continued from Page 100)

seconds. Some of the subjects underwent changes comparable to being raised to about three miles in less than one second.

They said that tests had been made on immediate injury—such as bends—but that no investigations had been made of possible injuries that might show up later. Because commercial jet planes require cabin pressurization of some magnitude, they felt a study of possible late effects of decompression was of "still more importance."

The men tested were from 23 to 42 years old, in good health, and had been involved in decompression work from one to six years. Physical examinations showed no important abnormalities and chest x-rays were normal. A series of tests on lung capacity and breathing compared favorably with normal levels. The physicians said "it was not possible" by conventional tests to detect "any evidence" of damaged lung function in the men.

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Ordinary Baldness Can't Be Cured

The first known written medical record contained a remedy for baldness, including fat from the lion, hippopotamus, crocodile, goose, serpent, and ibex. It had one thing in common with modern "cures."

It also failed to cure baldness.

One of the reasons baldness "cures" have continued to appear for thousands of years is that baldness is a "mysterious condition about which people can be easily fooled," according to Veronica L. Conley, assistant secretary of the American Medical Association Committee on Cosmetics.

Another reason is that it is the kind of problem that breeds quackery, she said in a recent issue of *Today's Health* magazine, published by the American Medical Association. The "pseudoscientific arguments supporting most baldness cures" are frequently "so convincing that their unsound basis can be detected only by trained scientists."

For instance, "before and after" pictures of bald men whose hair grew again after using a "restorer" are among "the most potent advertising weapons." The trouble is that in many types of baldness, hair will return regardless of treatment or lack of it. This type of baldness and "spontaneous regrowth" often follows infectious diseases accompanied by fever, including erysipelas, pneumonia, typhoid, and influenza. Serious hair loss sometimes follows childbirth or surgery. In all these conditions, normal hair growth returns without help.

But for ordinary baldness, massage and hair tonics with or without vitamins, hormones, ultraviolet light, diets, sulfa drugs, and antiseptics have "no special place" in treatment. A complete physical examination to discover a possible cause in disease is wise. Regular and gentle scalp massage, brushing, and intermittent tugging at the hair to lift the scalp are "measures for good scalp hygiene."

However, once ordinary baldness gets under way, "it is progressive and permanent and there is no known way of preventing or retarding its progress," Mrs. Conley said. The tendency toward baldness is hereditary but will appear only where there is a normal amount of male hormone.

Scientists are mostly optimistic about an eventual solution to the problem of baldness, except for one factor.

"In the course of evolution there has been a marked reduction in the amount of hair covering the human body," she said. "The loss of scalp hair may be part of an evolutionary trend. If this is true, future centuries will bring not a cure but the appearance of more and more bald men."

State Health Group Urges Full Military Status for Public Health Service

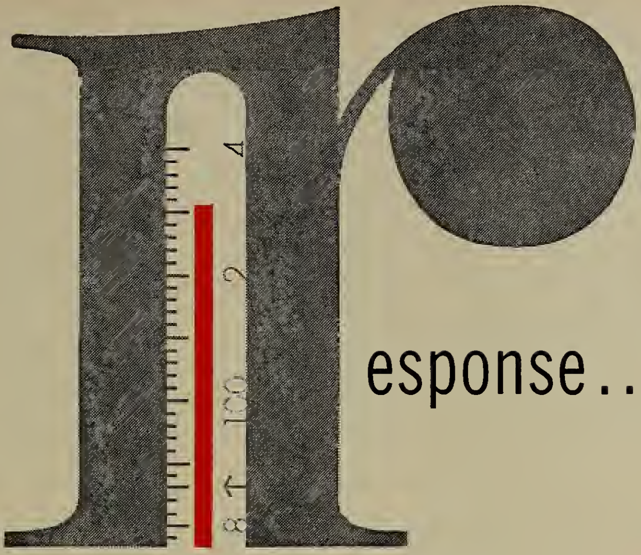
The Association of State and Territorial Health Officers wants the Public Health Service commissioned corps made a component part of the Armed Services. Delegates, winding up their annual meeting in Washington, passed a resolution "strongly" recommending that Congress pass a law giving PHS officers the same status and privileges now available to members of the Army, Navy and Air Force. The resolution also noted that while PHS service is credited toward fulfilling doctor draft obligations, this service does not confer veterans' rights. Dr. J. W. R. Norton, North Carolina state health officer, was elected president of the association, succeeding Dr. E. M. Erickson, Oregon health officer.

The following two resolutions dealing with international health were adopted: (1) that Congress appropriate enough funds to match the U. S. share of the WHO budget as set by WHO, and (2) that PHS draw up a list of competent, security-cleared public health personnel to be ready on short notice to join teams for overseas disaster relief.

The association, after declaring that some states appear to carry a very high proportion of their public health costs, while others seem to lean on federal funds too heavily, recommended the following: (1) federal representatives should meet with state budget heads or governors to find out why certain states fail to assume their fair load, (2) HEW should combine the four PHS health grants into a single consolidated grant to simplify administration, reduce bookkeeping and increase efficiency, and (3) federal funds should be distributed on a single allotment formula based on population, extent of problem and per capita income.

Other recommendations: (1) in the event the Salk poliomyelitis vaccine is licensed and released for prophylaxis, state and territorial health departments should administer it; (2) American Medical Association and constituent state and county societies should continue sponsorship of health fairs such as the one held recently at the clinical session in Miami as "an excellent means for carrying out effective health education," and (3) the A.M.A., PHS and health officers association should join in sponsorship of training sessions stressing noncasualty care aspects of civil defense.

—*A.M.A. Washington Letter*



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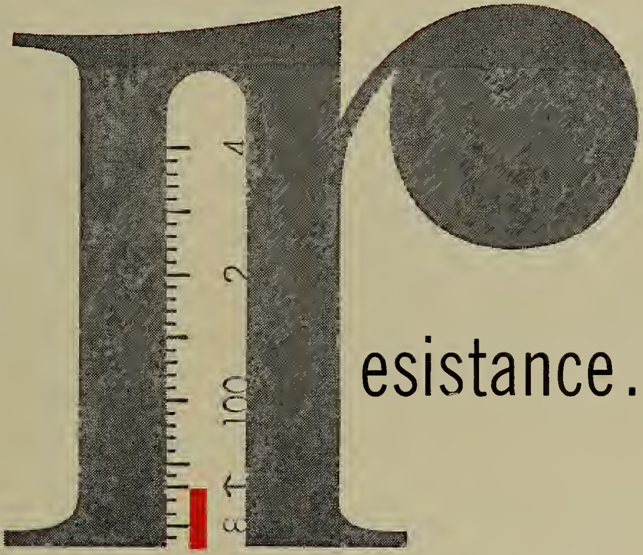

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What It Costs People to Be Sick

The December 24 issue of U. S. News & World Report carried an interesting and informative article on "What It Costs People to Be Sick." Quoting figures "based on the latest study of the Social Security Administration brought current through estimates by the Economic Unit of U. S. News & World Report," this special article points out some favorable information on doctors' fees. The story said:

"Government experts attribute most of the rise in hospital expense to higher charges resulting from better pay scales for hospital workers and the higher cost of food.

"Dentists and physicians, on the other hand, are getting a somewhat smaller share of the nation's private medical outlays. This finding runs counter to criticism of physicians' fees.

"Physicians' fees used to account for 30 per cent of the out-of-pocket cost; now they are 29 per cent. Dental bills are less than 10 per cent today, compared with more than 12 per cent in 1948.

"These fees tend to stay fairly constant for periods of years. The last big jump came during World War II. Today many physicians are charging the same for office calls and sickroom visits as they did shortly after the war."

The report said that medical care is costing people a total of 12.4 billion dollars a year, of which 2.1 billion is met through health insurance.

—*The A.M.A. Secretary's Letter*

More Men Than Women Are Hospitalized

A nationwide survey just released shows that more men are hospitalized than women.

This is true despite the fact that one-sixth of all persons admitted to hospitals in one year were pregnant women, according to the survey made by the Bureau of Medical Economic Research of the American Medical Association. The survey was reported in a recent issue of the *Journal of the American Medical Association.*

It showed that on one day in 1953 there were 1,206,592 persons in 6,539 of the nation's 6,840 registered hospitals. This included 642,156 men and 564,436 women or 77,720 more men.

Frank G. Dickinson, Ph.D., director of the bureau, said the higher hospitalization rates of males "strongly implies that they are the sicklier and more hospitalized sex." However, the survey gave no definite reason for the excess.

A breakdown of the totals showed that even in the childbearing years of life, between 15 and 44, men exceeded women in hospitals by 13,000. At ages 45-64 the excess was over 51,000 but after 65 it dropped to 2,000. Dr. Dickinson said surveys of accidents and occupational diseases might shed more light on the difference but the latter would hardly explain why there were 11,300 more males than females under 15 years old in hospitals.

One of the major factors in the difference was found in a breakdown of patients in hospitals under various types of controls. There were 98,605 more males than females in Veterans Administration hospitals and also more men than women in other federal hospitals. However, in general nongovernmental hospitals women exceeded men by 64,631. In state hospitals, which accounted for slightly less than half of all patients, the number of males and females was practically the same—277,546 and 277,270.

Poisoning Takes Toll of Infant Lives

In the United States in 1949-50 the number of deaths from accidental poisoning in children under 5 was 2.6 per cent of 100,000 population, or four times that of Great Britain.

One third of them were from drugs—the commonest of which was aspirin.

According to an editorial in a recent issue of the *Journal of the American Medical Association,* the problem far exceeds that of leading childhood diseases if you add to accidental deaths the number of children crippled by poisons.

"Anything can be dangerous if taken in excess," the editorial said. "We seem to be a nation of aspirin eaters, and there are few households in which a supply of this drug in one form or another cannot be found." Among the most dangerous to children are sweetened aspirin and aspirin chewing gum.

Other hazards are common household items like liniment, bleaching agents, lighter fluid, cleaning fluid, insect spray, rat poison, permanent wave solution, shampoo, nail polish remover, antifreeze, detergents, furniture polish, ammonia water, and kerosene.

Because of the problem, a Committee on Toxicology has been established by the American Medical Association to study the health problems of drugs, household goods, and other materials, and to supply educational material to the public. Another important step is the establishment of poison control centers to cooperate with local hospitals.

Most cases of accidental poisoning should be prevented, the editorial said, but when they happen prompt and appropriate treatment can save a life. Cooperative efforts now aiming at solution of the problem "should go far to bring the record of the United States down to that of other highly industrialized countries."

Tick Fever May Be Found Anywhere

Travel speed and the popularity of western vacations make it possible for Colorado tick fever to show up in any part of the country, United States Public Health researchers say.

In a recent study, virus from the tick which carries the disease was found in patients exposed in California, Colorado, Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming. The disease has been found in persons from as far away as Florida, Maine, and New York.

The study of Colorado tick fever distribution was reported in a recent issue of the *Journal of the American Medical Association* by Carl M. Eklund, M.D., Glen M. Kohls, M.S., and James M. Brennan, Ph.D., from the United States Public Health Service Laboratory at Hamilton, Mont.

Their isolations of virus were the first reported in widespread areas outside of Colorado. They said they found virus-carrying ticks in all nine states where patients had been exposed, and in Canada.

The disease differs from Rocky Mountain spotted fever—also carried by ticks—in that it causes no skin eruption and recovery is invariable. Four or five days after exposure to ticks the patient has chilly sensations, headaches, nausea, and, occasionally, vomiting. Fever, headache, and backache last about two days, disappear for about two days, and then return for two or three more days.

New Drug Stops Severe Hiccups

Unmanageable hiccups lasting as long as nine months have been stopped almost immediately by a new drug, two Brooklyn physicians said recently.

Drs. Charles E. Friedgood and Charles B. Ripstein reported in a recent issue of the *Journal of the American Medical Association* that all but four of 50 patients stopped hiccuping when given chlorpromazine (trade name: Thorazine).

While hiccups may be just a nuisance to most people, in some illnesses they "may progress to exhaust the patient's strength and produce marked depression or even death," they said.

One of their patients had been hiccuping intermittently every day for nine months. After five days of continued hiccups, he was brought to the hospital in an exhausted state. After one injection of chlorpromazine the hiccups stopped immediately. Another patient had been hicuping for nine days, was completely exhausted, and had to be fed intravenously. His hiccups stopped three minutes after taking chlorpromazine.

The physicians said that if the cause of hiccups cannot be treated, hiccuping may return. Five of their patients had hiccups again, but further treatment reduced their intensity and frequency. Four patients did not respond because the cause of hiccups could not be treated.

Chlorpromazine is a "safe and useful" drug for treating unmanageable hiccups not stopped by other methods, the physicians said. The drug has been used previously to aid in anesthesia and sedation, lower body temperature, quiet mental patients, and relieve severe pain and nausea.

Weather Is Important To Well-Being

Blaming the weather for "blue" moods and bad colds is not unscientific, a Chicago physician says.

The weather was blamed for the common cold as long as 2,000 years ago and scientific investigation has shown that Hippocrates was right, Dr. Noah D. Fabricant said.

In fact, weather changes are reflected in all of the body's processes, and can have an effect on emotions, colds, asthma, heart disease, and even suicide. The weather can often be "the straw that breaks the camel's back," Dr. Fabricant said in a recent issue of *Today's Health* magazine, published by the American Medical Association.

There's an explanation for it, he said. Tests have shown that "every change in weather involves a physiological adjustment in everyone." For instance, colds increase when temperature drops because the membranes of the nose and throat become altered and fall easy victim to invading germs.

At least somebody is trying to "do something about the weather," Dr. Fabricant said. Taming the weather has become a foremost interest of many engineers, architects, meteorologists, and physicians. Some planners are convinced that buildings could be placed to serve as windbreaks, streets laid out to avoid wind channels, and houses built to reject rather than absorb heat.

One way to prevent the shock of going from an air-conditioned room into the heat, or from a heated room into the cold, is to have a closer adjustment between the two atmospheres.

"Some physicians believe that a number of diseases will respond to controlled weather and climatic conditions," he said. "Though more than a beginning has been made toward deflating the common cold nuisance, it is reasonable to expect that in the future attention to controlled atmospheric conditions will play a role in ameliorating colds."

Delinquency Is Not Fault of Parents Or Comic Books

Banning comic books and blaming parents is too easy and fruitless a way out of the problem of juvenile delinquency, an editorial in a recent issue of the *Journal of the American Medical Association* said.

"If we want the delinquent to adjust to society we must recognize the importance of providing the sort of society to which a person may reasonably be expected to adjust," the editorial said.

"The delinquent youth has been described as a rebel without a cause," it said. "He is essentially an unhappy person who is looking for a face-saving way to abandon his false bravado. He does not conform to the standards of a society from which he feels he has been excluded.

"There is always the danger that the public, goaded by one-sided enthusiasts, will seek an easy but superficial and hence fruitless answer to the problem in the banning of certain types of television programs or 'comic' books. . . . Although in many instances parents are partially to blame for the delinquency of their children, this is too easy an indictment to make, and in almost every case other factors in the child's environment will have been found to play a contributing role.

"Preventive measures should include more child guidance services in the schools, better mental hygiene instruction for parents, better training of teachers" and teamwork between psychiatrists, psychiatric social workers, and other professional persons, the editorial said.

"The charge that American home life is vanishing is unduly pessimistic," it said. "It is undergoing change, and the rapidity of the change has been unsettling, but there is every prospect that a more democratic, more companionable, and less authoritarian home life than was ever present in the past will evolve.

"It will be characterized by more cooperation and less compulsion. It is to be hoped that such juvenile delinquency as persists in spite of it will be of the transient type and reduced to an insignificant level."

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ANNUAL MEETING
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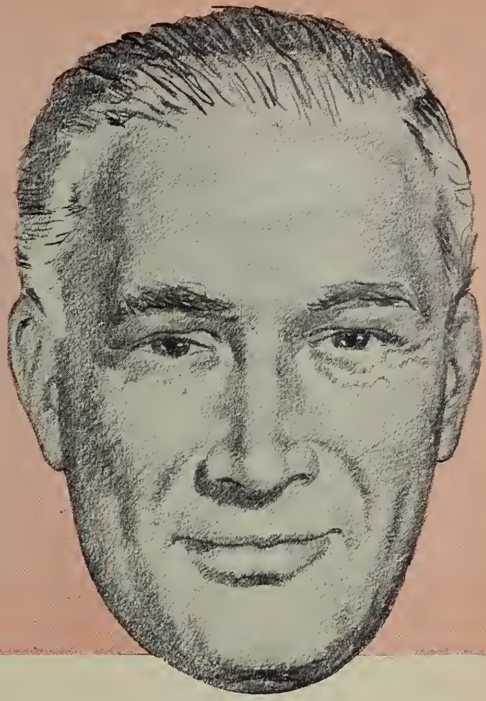

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Prior to his association with Boyle & Company, Jim Senese owned his own pharmacy in Chicago. There his chief avocation of singing culminated in appearances with the Chicago Civic Opera. Now a solid citizen of Phoenix, Arizona, Jim's fine basso profundo voice is still put to good advantage in his church choir.

Jim's interest in medicine is shared by his wife Margaret, a registered nurse. Active in her profession, she nevertheless finds time to devote to her home and three lovely daughters.

Jim Senese is typical of the many Boyle representatives screened and trained to deliver a serious, concise and thorough presentation on new developments and improvements of Boyle pharmaceuticals. Knowing your time is limited, they confine their visits to discussions of particular interest to you.

On his next visit, your Boyle representative would like to talk with you in more detail about the products shown on the succeeding pages. Fire away with any questions or comments . . . he'll welcome them!

BOYLE

Bushman Had Nutritional Defect

One of the troubles with people is that they just don't know how to feed gorillas.

An autopsy report made recently on Bushman, Chicago's giant gorilla who died suddenly in 1951, shows that Bushman probably died as a result of a nutritional defect. Furthermore, like all other gorillas in captivity, Bushman never became able to father offspring.

The trouble is that unless someone can find out what mysterious nutritional element is needed for gorillas, they won't be able to reproduce in captivity and the species may die out. This will leave scientists without a valuable animal for study, according to doctors writing in a recent issue of the *Archives of Pathology*, published by the American Medical Association.

Drs. Paul E. Steiner and Theodore B. Rasmussen of the University of Chicago, and veterinarian Lester E. Fisher, of Lincoln Park Zoo, said their autopsy showed Bushman died of a lung congestion resulting from heart trouble. But the basic cause was something he didn't eat.

Thousands of admirers had seen Bushman—one of the biggest and oldest gorillas in captivity—loping about his cage at Lincoln Park Zoo. The lope was caused by a foot injury which never healed. The doctors said this may have been due to his diet, too, although he was fed everything known to be needed for a healthy gorilla.

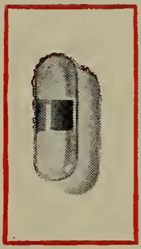
A husky 38 pounds when he arrived in Chicago in 1930, Bushman reached 550 pounds and 6 feet 2 inches when he was 21 years old. He daily ate 22 pounds of fresh fruit, vegetables, and whole wheat raisin bread, plus three quarts of milk. Once, when he got too fat, his cream was taken away from him. The postmortem study showed that when he died at 22, he was still a little fat, in spite of losing 50 pounds in his last six months.

Bushman's lungs, they said, showed some darkening from inhaling coal dust—but not more than those of any average 22-year-old Chicago resident.

Some of his other troubles appeared to be very like those of ordinary human beings. He had some hardening of the arteries in the brain and spinal cord, and a bit of kidney trouble. Part of this appeared to be the result of aging, but he definitely was not senile. His heart trouble was like that of men suffering from beriberi, a nutritional disorder. Bushman also had a gum infection and a cavity in one tooth.

The doctors said they just don't know what Bushman was lacking in his diet. One of the mysteries about gorillas is that they thrive in two areas in

(Continued on Page 42)



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The rising incidence of bacterial resistance to various antibiotics constitutes a serious therapeutic problem. Many infections, once readily controlled, are now proving difficult to combat. Administration of CHLOROMYCETIN (chloramphenicol, Parke-Davis) is often useful in these cases because this notable, broad-spectrum antibiotic is frequently effective where other antibiotics fail.

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CHLOROMYCETIN is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

*Pratt, R., & Dufrenoy, J.: Texas Rep. Biol. & Med. *12*:145, 1954.

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Shaving May Cause Skin Disease

A Canadian physician has come up with a theory about why some men get skin diseases in the bearded area of the face.

He says it is all in the way they—or their barbers—shave. Dr. Gibson E. Craig, Montreal, said shaving "against the grain" is what causes folliculitis, an inflammation of the depressions from which hairs grow.

Dr. Craig said his theory would explain "why some men get folliculitis every time they get shaved by a barber who in his enthusiasm shaves in all directions" and "why electric razors pushed in all directions across the face with their large heads flattening the follicular mounds probably cause as much trouble as blades, or even more."

However, he notes that the reverse position about electric razors may be taken. Using an electric razor has been recommended as a way to stop skin disease.

Here's how Dr. Craig explains his theory in a recent issue of the *Archives of Dermatology*, published by the American Medical Association:

The grain, or direction of hair growth, generally runs from above downward parallel to a line from the tip of the nose to the chin. In shaving, many men pull the skin tight, which depresses the mound around each hair. When the hair is cut and the skin loosened, the cut end may be below normal skin level. When it grows out, instead of coming through the usual canal it grows into the edge of the skin from underneath, sometimes doubling up outside the skin. This inflames the skin and causes folliculitis.

Dr. Craig said he does not claim that his idea is original, since at least one other doctor has mentioned it to him. And it is hard to prove. But it would explain why folliculitis appears only in bearded areas, and frequently on the neck where the grain changes direction.

His treatment consists of warm compresses to soften the skin, plus a medicated cream to control infection. In the meantime, no shaving is allowed.

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enriched bread in *Obesity Management*

Diet organization in anti-obesity management must be based on the nutrient and energy values of the foods allowed, on the eating satisfaction they provide, and on their cost. Enriched bread merits a prominent place in reducing diets. While it supplies notable quantities of essential nutrients, it yields only moderate amounts of nutrient energy. At the same time, bread is universally appealing to the palate, and its cost remains low.

The daily allowance of enriched bread in the reducing diet may vary from one to six slices. One regular slice of enriched bread provides only 63 calories, but supplies these notable amounts of essential nutrients (based on estimated national average): 2.2 Gm. of protein, 0.06 mg. of thiamine, 0.6 mg. of niacin, 0.04 mg. of riboflavin, 0.7 mg. of iron, 23 mg. of calcium, and 21 mg. of phosphorus. Its protein, a composite of flour and milk proteins, is applicable to growth as well as tissue maintenance.

Universally liked, enriched bread enhances the eating satisfaction provided by the reducing diet. It blends well with all menus, lessening the hardship of dieting.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

AMERICAN BAKERS ASSOCIATION

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Bushman Had Nutritional Defect

(Continued from Page 32)

Africa, one in the mountains and the other in the lowlands, but not in the area between, which outwardly appears similar in character. Another problem is that chimpanzees, orangutans, and gibbons reproduce in captivity, but gorillas never have. And unless some way is found to correct this problem, there will be no more gorillas. Only a few hundred of the mountain type and a few thousand of the lowland or Bushman type still survive. Something seems to be missing—and the doctors said somebody had better find out what it is. They don't know.

Air Tour to Europe After American Medical Association Meeting

Final arrangements for the A.M.A. preconvention and postconvention tours to Europe this June have been consummated by United Air Lines.

These air tours are sponsored by the American Medical Association and operated by United Air Lines in conjunction with Thomas Cook & Son, and have been arranged to precede and follow the annual meeting at Atlantic City, June 6-10. Physicians and their wives have a choice of four itineraries, each of four weeks' duration.

(Continued on Page 46)

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Available in 250 mg. tablets and 500 mg. ampuls for intravenous use.

1. MERLIS, S.: Diamox: A Carbonic Anhydrase Inhibitor—Its Use in Epilepsy. Neurology. 4:11, 863-866 November 1954.

2. BECKER, B.: Decrease in Intraocular Pressure in Man by a Carbonic Anhydrase Inhibitor, Diamox. Am. J. Ophth. 37:1, 13-15 January 1954.

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Lederle

*REG. U.S. PAT. OFF.

Air Tour to Europe After American Medical Association Meeting

(Continued from Page 42)

Departures from New York are scheduled for May 6, May 8, June 11, and June 13. Deluxe air service will be provided by Air France, British Overseas, K.L.M., Royal Dutch, Pan American, Sabena Belgium, Scandinavian Airlines and Swiss Airlines.

Those departing on May 6 will return to New York on June 3. Those departing on May 8 will return June 5. Both groups will be back on the East Coast in time to attend the Atlantic City meeting. The postconvention tours will depart on June 11, returning July 9, and June 13, returning July 11. The same itinerary is included in all tours. The countries visited are: England, France, Italy, Switzerland, the Netherlands, and Germany.

In addition to sojourns in capital cities and renowned "old world resorts," the tours will include medical meetings in London, Paris, and Zurich, at which time European scientists will lecture. Concurrent with these medical meetings, style shows will be presented in these cities and in Rome for the physicians' wives who will be on the tour. Among the

(Continued on Page 54)

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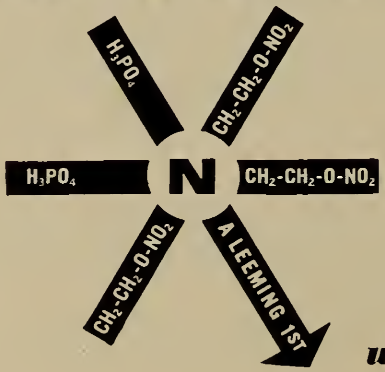

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PEDIATRIC DROPS (Cherry Flavor): 100 mg. per cc. (approx. 5 mg. per drop), 10 cc. bottle

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OINTMENT (3%): ½ and 1 oz. tubes

OPHTHALMIC OINTMENT (1%): ⅛ oz. tube

OPHTHALMIC SOLUTION: vial of 25 mg. with sterilized dropper vial

EAR SOLUTION (0.5%): 10 cc. dropper bottle

SYRUP (Cherry Flavor): 125 mg. per teaspoonful (5 cc.), 2 oz. bottle

In any of its numerous dosage forms, ACHROMYCIN is a potent weapon to combat a variety of infections. This true broad-spectrum antibiotic has proved effective in controlling Gram-negative and Gram-positive bacteria, rickettsia, spirochetes, and certain viruses and protozoa.

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Physicians Offer Ideas on Auto Safety

Physicians are continuing their search for a way to reduce highway accident deaths.

Two physicians, in letters published in a recent issue of the *Journal of the American Medical Association* debated the merits of auto safety belts and agreed that belts alone are not the entire answer. They said overall automoile design must be improved and other safety measures developed.

The A.M.A.'s House of Delegates, meeting in San Francisco in June, passed a resolution calling for wider use of safety belts, and recommending that auto manufacturers emphasize safety in all car designs.

Dr. John H. Schaefer, Los Angeles, recently said he believes that auto seat belts as presently designed will save no lives. He said a device that would distribute force evenly over a large area of the body and would yield in absorbing this force would be "valuable."

He also said that placing seats facing backward and building them high enough to support the head would be a "logical answer to the problem of motor car collision, but I doubt that the public would accept it."

However, Dr. Horace E. Campbell, Denver, chairman of the automotive safety committee of the Colorado State Medical Society, said he cannot agree with all of Dr. Schaefer's conclusions. He said Dr. Schaefer is right in saying the safety belt is being called on to do something it was not designed to do, but it is at least doing "a fourth" of the job.

The trouble is, Dr. Campbell said, that seat belts aren't good enough so long as cars are designed as they are.

He said seats in motor cars come loose easily and it is "senseless" to fasten belts to the seats. They should be fastened to the frame and supplemented by chest or shoulder harnesses, "until the motor car manufacturers begin to give us seats to which these may be attached. . . ."

"The Indiana State Police have recommended crash helmets for motorists, and while it seems ridiculous at present, it was thought ridiculous only a few years ago for construction workers to wear 'tin' hats," he said. "We have two courses. We can continue to accept 39,000 motor car deaths a year, together with 1,500,000 injuries, or we can interpose structures between ourselves and the structures that are killing us."

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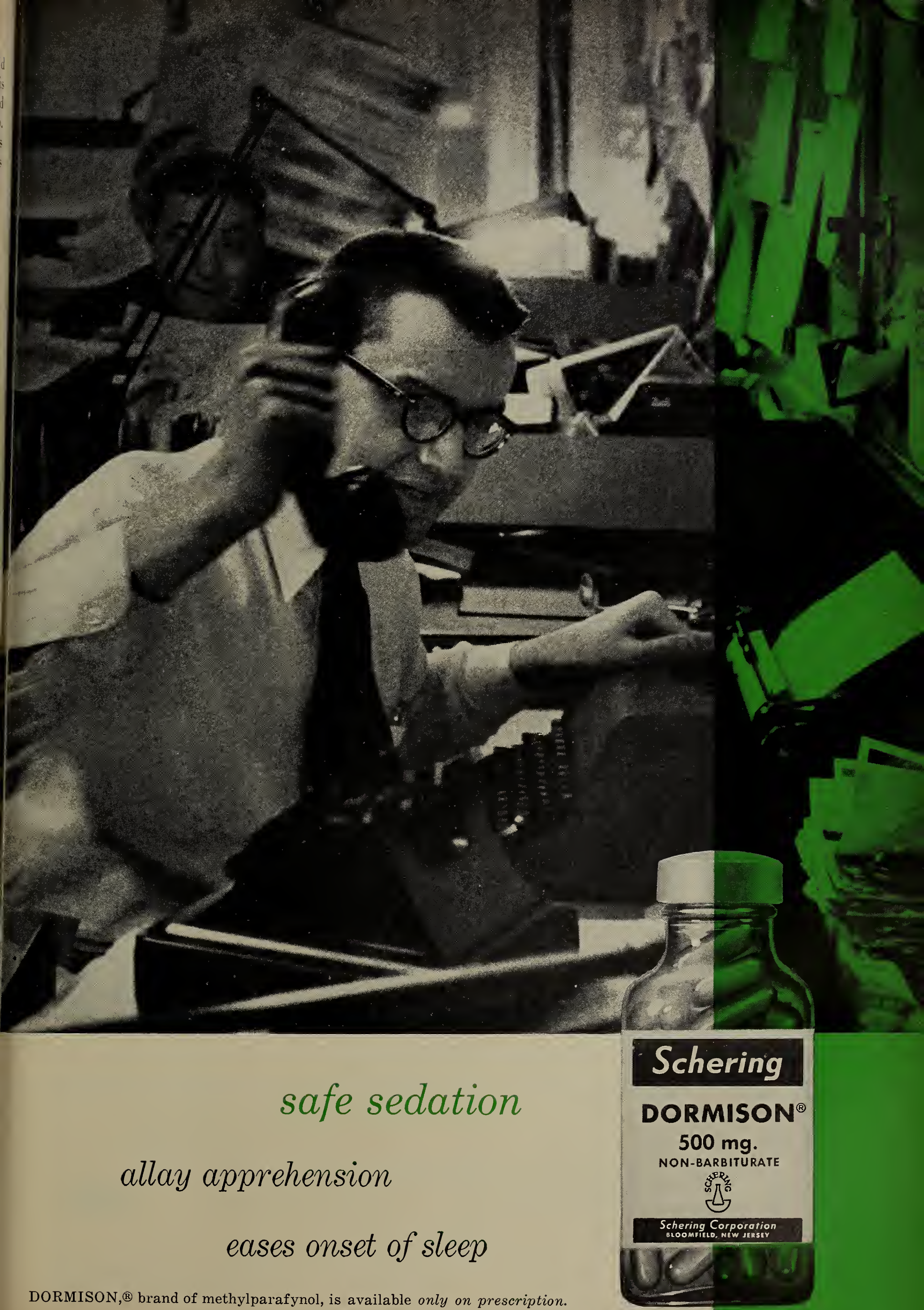
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Air Tour to Europe After American Medical Association Meeting

(Continued from Page 46)

cities to be visited on the tours are: London, Amsterdam, Haarlem, The Hague, Coblenz, Frankfurt, Zurich, Lucerne, Milan, Venice, Florence, Rome, Genoa, Monte Carlo, Grasse, Nice, and Paris. Continental transportation will be on the surface in motor coaches, a Rhine steamer, gondolas, and the luxurious "Blue Train" between Nice and Paris.

The cost of the tour has been reduced to $1,598, which includes round trip transportation, all en route meals, and hotel accommodations. A deposit of $100 is required at the time of booking. Requests for booking and additional information should be addressed to American Medical Association Convention Tours, United Air Lines, 5959 S. Cicero Avenue, Chicago 38. Checks should be made payable to United Air Lines.

—The A.M.A. Secretary's Letter

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Garden Soil May Be Source Of Once-Rare Disease

Garden soil, particularly if taken from around chicken houses, may be the source of a form of lung disease once considered rare and fatal.

The danger of spreading the fungus which causes the disease should be considered by gardeners, according to a recent issue of the *Journal of the American Medical Association.*

Two physicians and two scientists reported a case of the pneumonia-like disease, histoplasmosis, which resulted from inhaling the dust of infected soil. The patient suffered severe headaches, sore throat, general aches, and fever not long after sifting soil bought for his garden. He said the soil was dry and contained chicken feathers. It later was proved to contain the disease-causing fungus, Histoplasma capsulatum.

A neighbor who used the same soil in her flower beds suffered a similar illness, but soil tests taken several months later did not show fungus. Both patients recovered without apparent after-effects.

Epidemics of the disease often have been associated with inhalation of dust in abandoned houses, dusty silos, storm cellars, and chicken coops, the article said. Chickens probably are not the source of the infection but areas frequented by chickens may favor development of the fungus.

It said the experiences of the two patients reported on differed from all other reports because these patients were exposed to material "commonly used by gardeners and commonly transported to noninfected areas."

"Instead of a disease confined to groups of persons entering on or working at a remote or unfrequented site, it is apparent that smaller groups of persons may be exposed during a common procedure around the house," the article said.

(Continued on Page 62)

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Garden Soil May Be Source Of Once-Rare Disease

(Continued from Page 58)

"The danger of infecting new areas with H. capsulatum and the danger of exposing new persons should be considered in gardening," it said. "There is a potential hazard of sifting garden dirt in areas where histoplasmosis is common."

The report was made by John H. Kier, M.D., and Wheelan D. Sutliff, M.D., Memphis; Charlotte C. Campbell, B.S., Washington, D. C., and Libero Ajello, Ph.D., Chamblee, Ga.

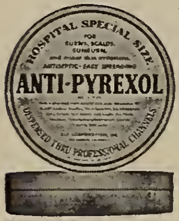
Krebiozen Publicity Flares Up Again

Like a bad case of smallpox, krebiozen publicity is breaking out all over. Reason: there's a new book out on the subject and, as part of the promotion, it is being sent to science writers, newspapers, and magazine writers.

A blurb on the jacket of the book says: "Everyone Who Fears Cancer Should Read This Sensational Book." It's sensational, all right.

Many writers have been approaching the A.M.A. for comment, and a news release was prepared, saying that "the recent flareup of publicity and propa-

(Continued in Back Advertising Section, Page 74)



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California MEDICINE

OFFICIAL JOURNAL OF THE CALIFORNIA MEDICAL ASSOCIATION

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Volume 82 MARCH 1955 Number 3

Hypertrophy of the Heart

Electrocardiographic Distinction Between Physiologic and Pathologic Enlargement

TRAVIS WINSOR, M.D., and
GEORGE BECKNER, M.D., Los Angeles

• *Electrocardiograms of marathon runners were examined to study hypertrophy of the heart due to prolonged physical exertion and to differentiate this from hypertrophy due to various disease states, especially essential hypertension, aortic valvular disease and coarctation of the aorta. The electrocardiogram of the marathon runners was characterized by a slow cardiac rate, high voltage of the QRS complexes and T waves in the standard and/or precordial leads with normal R/T ratios. There was moderate enlargement of the heart as observed on teleoroentgenogram. These findings are characteristic of physiologic hypertrophy of the heart and should be suspected among patients having a history of athletics calling for endurance. Immediately after running, all waves showed an increased voltage and the heart size decreased.*

The concept of the secondary T wave in hypertension as a part of the left ventricular strain pattern was challenged by the observation that the increased voltage of the R waves in lead V5 and other leads seen in marathon runners and in certain patients with hypertension, aortic stenosis, aortic insufficiency and coarctation of the aorta were not necessarily associated with typical discordant S-T segments and T waves. There was a higher incidence of dyspnea, angina pectoris and cardiac enlargement among hypertensive patients with discordant T waves than among hypertensive patients without these changes. Thus it is felt that the discordant waves are primary and are not merely secondary to the increased area of the R waves. Primary T waves suggest myocardial disease, possibly anoxia of the subendocardium.

THE PRIMARY PURPOSE of this study is to describe the electrocardiographic features of physiologic hypertrophy of the heart due to prolonged physical exertion, and to differentiate that condition from pathologic hypertrophy due to various disease states, especially essential hypertension. The study was undertaken as the result of the observation that marathon runners at rest showed cardiac enlargement on teleoroentgenograms and high voltage of the QRS complexes and T waves in electrocardiograms. An additional purpose is to evaluate the concept of the secondary T wave which is considered a part of the electrocardiographic pattern of left ventricular strain. This concept suggests that increased left ventricular pressure results in high voltage of QRS complexes with increased areas under

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From the Nash Cardiovascular Foundation, Hospital of the Good Samaritan, and the Department of Medicine, University of Southern California Medical School. Aided in part by a grant from the Los Angeles Heart Association. Gratitude is expressed to Cora Lord and Jean Schnear for their assistance in these studies.

Presented before a Joint Meeting of the Section on General Medicine of the California Medical Association and the California Heart Association at the 83rd Annual Session of the California Medical Association, Los Angeles, May 9-13, 1954.

TABLE 1.—*Amplitudes of the highest R waves (in millimeters) in the six precordial leads in 40 non-runners and 40 runners*

		Runners	
	Non-runners	Before Running	After Running
Mean	18.6	24.1	25.8
Min.	8.0	8.0	4.0
Max.	31.0	52.0	42.0
S.D.±	5.1	8.0	7.0
C.V.± %	26.0	33.0	27.0

S.D. = Standard deviation. C.V. = Coefficient of variation.

TABLE 2.—*Amplitudes of the deepest S waves (in millimeters) in the six precordial leads in 40 non-runners and 40 runners*

		Runners	
	Non-runners	Before Running	After Running
Mean	12.7	19.8	21.7
Min.	0.0	4.0	2.0
Max.	29.0	38.0	45.0
S.D.±	5.3	4.5	8.0
C.V.± %	41.0	23.0	36.0

TABLE 3.—*Amplitudes of the tallest T waves (in millimeters) in the six precordial leads in 40 non-runners and 40 runners*

		Runners	
	Non-runners	Before Running	After Running
Mean	7.7	9.2	12.6
Min.	2.5	2.0	3.0
Max.	14.0	17.0	22.0
S.D.±	2.8	3.6	5.1
C.V.± %	36.0	38.0	40.0

the waves and, as a consequence, the occurrence of S-T segments and T waves which are discordant with the major deflection of the QRS complexes. These waves are considered secondary to the large waves of the QRS complexes and do not, therefore, in themselves indicate myocardial disease. This relationship is illustrated by the ventricular ectopic beat.

METHODS AND MATERIALS

The study was carried out on 165 marathon runners, most of whom had been in training for 26-mile races for over five years. In six instances, teleoroentgenograms of the chest were taken before and immediately after running to determine cardiac size. The electrocardiograms and teleoroentgenograms of 40 patients with essential hypertension, of ten patients with coarctation of the aorta and of one patient with rheumatic aortic stenosis and regurgitation were studied. Also electrocardiograms and teleoroentgenograms of 40 normal men with height, weight and age similar to the runners were employed for controls. Cardiac areas were determined (as by Hodges and Eyster[2]) from the teleoroentgenograms with the formula: $A = \frac{\pi}{4} L\,B$.* Electrocardiograms were standardized so that 1 millivolt produced a string or stylus deflection of 10 millimeters. Tracings were taken on Cambridge string and Sanborn photographic and direct writing electrocardiographic instruments. The areas under certain waves of the electrocardiogram were measured by counting the squares enclosed by the waves, with an accuracy of 15 per cent, and are reported in microvolt seconds (each small square on the electrocardiogram has an area of 4.0 microvolt seconds).

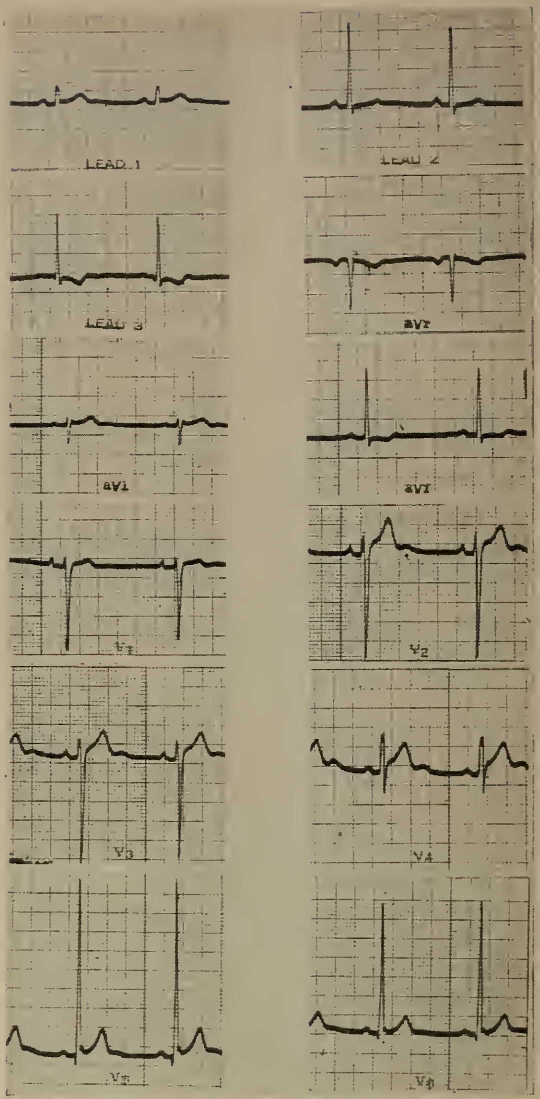

Figure 1.—Electrocardiogram of a runner at rest showing high voltage of the QRS complexes in lead V5 and other leads.

RESULTS

The effect of running on the electrocardiograms of 40 runners was determined by taking tracings before and immediately after they ran 26 miles, and comparison was made with the tracings of 40 control non-runners of similar age, height and weight.

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*A = cardiac area in square centimeters; L = long diameter of heart in cm.; B = broad diameter in cm.

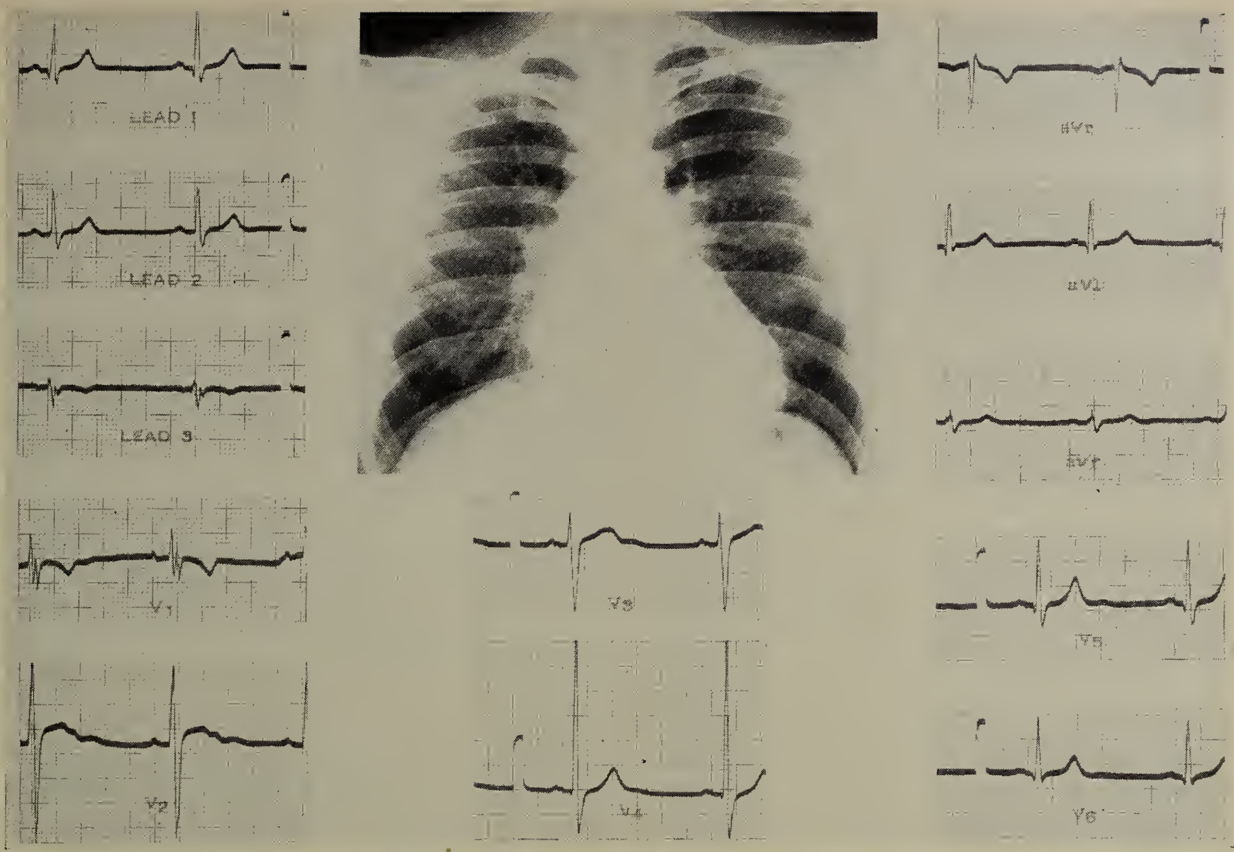

Figure 2.—Electrocardiogram of a runner at rest with R wave amplitudes in lead V5 which are at the upper limit of normal. The areas under the R waves and T waves in this lead are greater than the average for normals. The teleoroentgenogram shows the presence of cardiac enlargement.

The cardiac rate of the runners at rest averaged 56 beats per minute (range 42 to 76) and of the non-runners 72 (range 58 to 85).

The amplitudes of the highest R waves in the six precordial leads are shown in Table 1. The average was 18.6 mm. in the non-runners, and 24.1 mm. in the runners at rest, while after running it was 25.8 mm. Ten per cent of the tracings of the runners at rest exceeded the upper limit of normal for the non-runners, which is 31.0 mm.

The amplitudes of the deepest S waves in the six precordial leads, usually lead V2, were measured (Table 2). The average for the non-runners was 12.7 mm. as compared with 19.8 mm. for the runners at rest; after running the average value was 21.7 mm. Twelve per cent of the runners had S waves that exceeded the upper limit of normal for the non-runners, which was 29.0 mm.

The amplitudes of the tallest T waves in the six precordial leads are shown in Table 3. The average for the non-runners was 7.7 mm. compared with the runners at rest of 9.2 mm., while after running it was 12.6 mm. Sixteen per cent of the runners had T waves which exceeded the upper limit of normal for non-runners in this series, which was 14.0 mm.

Typical electrocardiograms of runners taken at rest and after running are illustrated in Figures 1 to 5. High voltage of the QRS complexes, especially in lead V5, is shown in Figure 1. The R waves measure 46.0 mm. in this lead. The upper limit of normal in a recently published series was 17.0 mm.[5] In the control group of 40 subjects in the present study the upper limit of normal was 31.0 mm. (Table 1).[1] In the patient whose tracing is shown in Figure 1, the areas under the R waves and T waves in lead V5 were greater than the average for the normal subject (*vide infra*). The sum of the amplitudes of the R waves in lead V5 added to the depth of the S waves in lead V1 was 68.0 mm., which exceeds the upper limit of normal of 35.0 mm.[5] and suggested the presence of left ventricular enlargement.

The amplitude of the R waves in lead V4 of the electrocardiogram shown in Figure 2 are at the upper limit of normal. The areas under the R waves and T waves are greater than the average for the normals (*vide infra*). The teleoroentgenogram shows the presence of cardiac enlargement.

R-R prime waves which were encountered in three of the runners are shown in Figure 3. The QRS complexes are not widened. This suggests strain on the

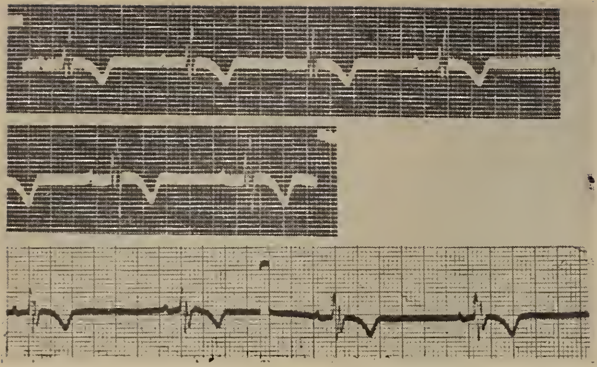

Figure 3—R-R prime waves in lead V1 in three runners at rest.

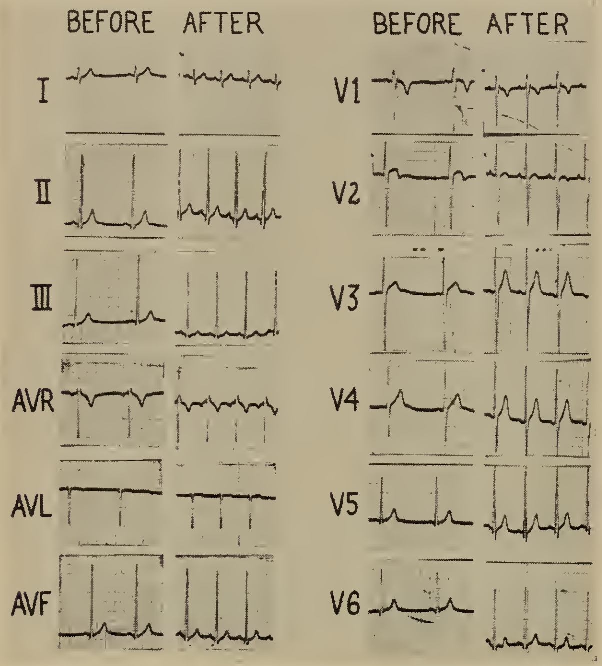

Figure 4.—High voltage of the QRS complexes in lead aVf before and after running 26 miles. Immediately after running there is an increase of the voltage of the QRS complexes especially in leads V4, 5 and 6.

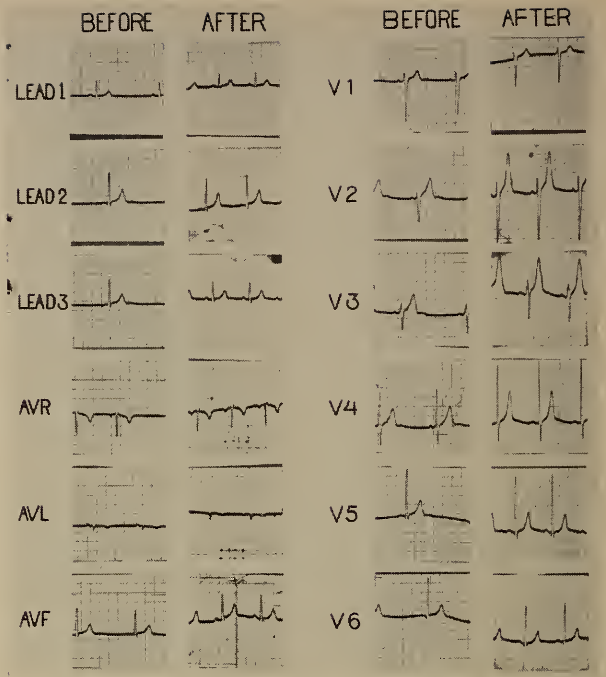

Figure 5.—The amplitudes of the T waves in V2 through V5 are increased after running 26 miles.

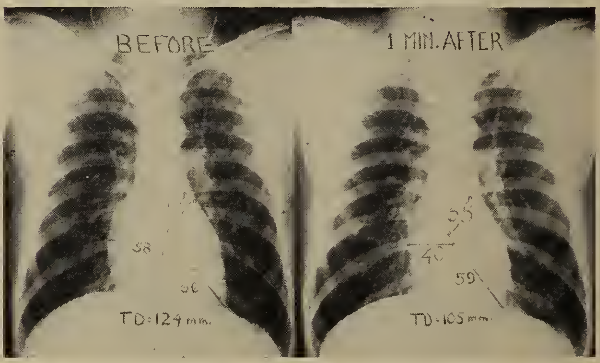

Figure 6.—A decrease in the size of the cardiac shadow occurs immediately after running 26 miles. There is no detectable change in the amount of air space between the heart and the chest cage after running.

right ventricle although incomplete right bundle branch block cannot be ruled out with certainty.

High voltage of the QRS complexes in lead aVf in a marathon runner before and after running 26 miles is shown in Figure 4. These waves are 37.0 mm. tall and exceed the upper limit of normal of 20.0 mm.[5] Likewise there is high voltage of the QRS complexes in lead 2 as shown by high R waves which are 37.0 mm. The amplitudes of these waves exceed the upper limit of normal of 22.0 mm.[5] Immediately after running an increased voltage of the QRS complexes in leads V4, 5 and 6 is seen (Figure 4).

Tall T waves are common in most of the chest leads in runners at rest. There is an absolute increase in the amplitude of the T waves after running, as the sum of all the T voltages in the 12 leads after running is greater than that before running (Figure 5).

Immediately after running there is a decrease in cardiac size with no significant change in the amount of air space between the heart and chest cage (Figure 6). The transverse diameter of the heart before running was 124.0 mm. as compared with 105.0 mm. immediately after running. Similar changes were seen in five other subjects in whom study of this type was made.

Measurements of the transverse, broad and long diameters of the heart, cardiac areas and great vessels diameters were analyzed (Table 4). All cardiac measurements were increased in the runners at rest, as compared with the normal control group. The

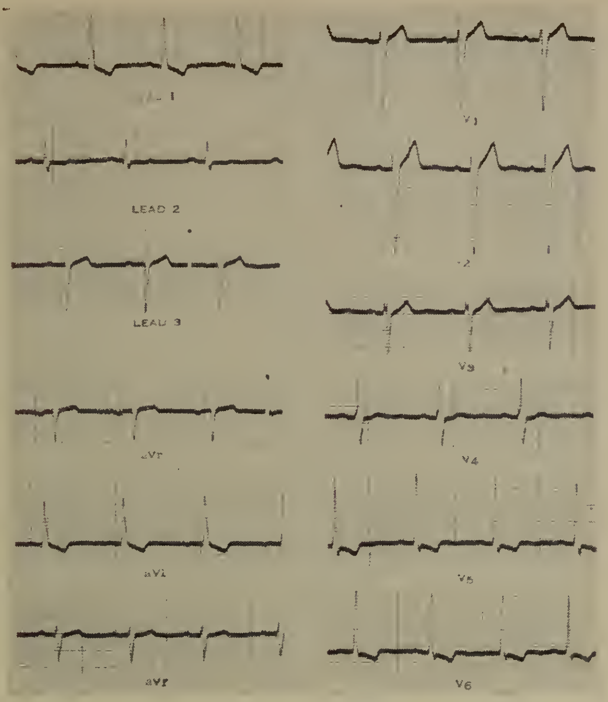

Figure 7.—Electrocardiogram showing typical "left ventricular strain pattern." The T waves and S-T segments are discordant with the main deflection of the QRS complexes.

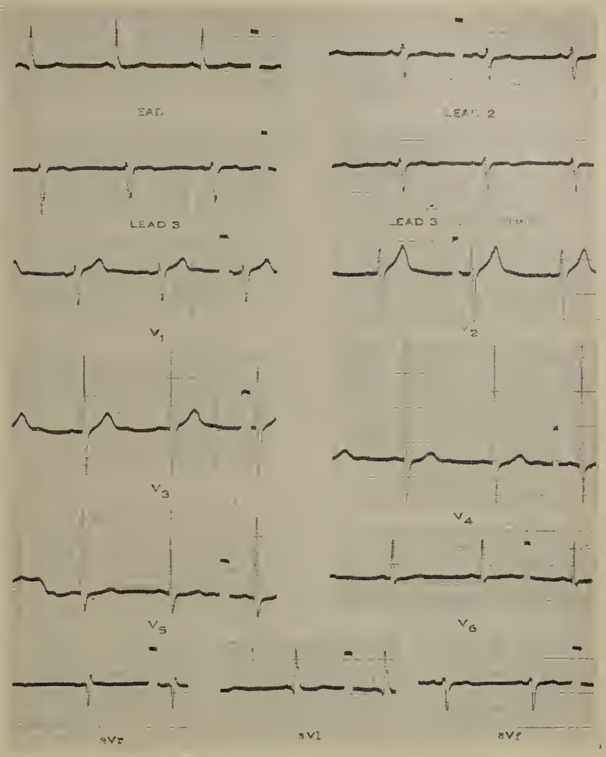

Figure 8.—Electrocardiogram of a patient wtih hypertensive heart disease which shows high voltage of QRS complexes and absence of discordant S-T segments and T waves.

measurement showing the greatest deviation from normal was the cardiac area. The average area for the non-runners was 123 square centimeters as compared with 139 square centimeters for the runners at rest, or an increase of 13 per cent. The predicted transverse diameter of the teleoroentgenogram of the heart of 27 runners at rest was estimated from the body height and weight, using tables of Ungerleider and Clark.[6] Six of the runners had a diameter exceeding the predicted diameter by from 10 to 20 per cent while in one the diameter exceeded the predicted by 35 per cent. The cardiac areas were measured in the same group and predictions were made based on height and weight. Nineteen of the 27 runners had cardiac areas which exceeded the predicted by 10 per cent. In fourteen, the area was from 10 to 30 per cent greater than predicted and in four it was from 31 to 55 per cent above the predicted area.

The electrocardiogram was studied next in patients with strain on the left ventricle to determine if high voltage of the QRS complexes is always associated with discordant S-T segments and T waves. Electrocardiograms of two patients with essential hypertension are shown in Figures 7 and 8. Both of these patients had high voltage (areas greater than average) of the QRS complexes in the leads recorded from the left side of the chest and in both patients there was radiographic evidence of cardiac enlargement. The electrocardiogram of one patient showed the typical left ventricular strain pattern with S-T segments and T waves which were discordant with the main deflection of the QRS complexes (Figure 7). In the other patient the discordant S-T segments and T waves were absent in the electrocardiogram although there was high voltage of the QRS complexes (Figure 8). The areas under the R waves of both of the preceding examples were greater than average; however, in one case there

TABLE 4.—*Measurements of the transverse, broad and long diameters of the heart (in centimeters) and of cardiac area and great vessel diameters (in square centimeters)*

	Transverse		Broad		Long		Area		Great Vessel Diameters	
	Non-runners	Runners	Non-runners	Runners	Non-runners	Runners	Non-runners	Runners	Non-runners	Runners
Mean	121	129	112	117	139	150	123	139	51	54
Min.	104	106	110	105	130	136	112	113	42	46
Max.	139	143	115	132	148	175	136	182	57	64
S.D.±	12	12	0.8	6	6.6	4.8	6.9	14	3.6	4.5
C.V.± %	10	9	0.7	5	4.7	3.2	5.6	10	7.0	8.3

TABLE 5.—*Relationships of areas under the waves of the QRS complexes and T waves in lead V5 in 12 normal subjects*

No.	Heart Rate	Area of Waves*				Ratio	
		Q	R	S	T	QRS/T	R/T
1	70	0.0	36.0	16.0	72.0	0.28	0.50
2	75	1.0	50.0	2.0	38.0	1.24	1.32
3	68	1.0	40.0	2.0	36.0	1.03	1.11
4	62	1.0	30.0	0.0	48.0	0.60	0.63
5	75	1.0	20.0	0.0	24.0	0.79	0.83
6	70	1.0	30.0	7.0	92.0	0.24	0.33
7	90	0.0	18.0	8.0	16.0	0.63	1.12
8	65	1.0	45.0	0.0	44.0	1.02	1.02
9	70	0.0	34.0	2.0	40.0	0.77	0.85
10	70	1.0	26.0	4.0	39.0	0.56	0.67
11	70	1.0	30.0	0.0	48.0	0.60	0.62
12	75	1.0	20.0	0.0	24.0	0.79	0.83
Mean	71.7	0.7	31.6	3.4	43.5	0.72	0.82
Min.	62.0	0.0	20.0	0.0	16.0	0.28	0.33
Max.	90.0	1.0	50.0	16.0	92.0	1.24	1.32

*Microvolt seconds.

TABLE 6.—*Relationships of areas under the waves of the QRS complexes and T waves in lead V5 of 12 runners*

No.	Heart Rate	Area of Waves*				Ratio	
		Q	R	S	T	QRS/T	R/T
1	60	3.0	80.0	0.0	68.0	1.13	1.18
2	42	0.0	92.0	7.0	120.0	0.71	0.77
3	50	2.0	60.0	24.0	60.0	0.57	1.00
4	60	0.0	50.0	10.0	60.0	0.65	0.83
5	60	2.0	60.0	10.0	100.0	0.48	0.66
6	60	1.0	90.0	5.0	228.0	0.37	0.39
7	58	2.0	62.0	0.0	104.0	0.58	0.59
8	60	0.0	70.0	3.0	112.0	0.58	0.63
9	55	1.0	70.0	15.0	72.0	0.75	0.97
10	45	1.0	70.0	4.0	92.0	0.71	0.76
11	65	1.0	60.0	12.0	56.0	0.84	1.07
12	45	1.0	56.0	7.0	76.0	0.64	0.74
Mean	55	1.4	68.3	8.0	95.7	0.67	0.79
Min.	42	0.0	50.0	0.0	56.0	0.37	0.39
Max.	65	3.0	92.0	24.0	228.0	1.13	1.18

*Microvolt seconds.

TABLE 7.—*Relationships of areas under the waves of the QRS complexes and T waves in lead V5 in 12 patients with hypertensive heart disease*

No.	Heart Rate	Area of Waves*				Ratio	
		Q	R	S	T	QRS/T	R/T
1	60	0.0	70.0	20.0	36.0	1.39	1.89
2	60	0.0	50.0	24.0	—44.0	......	......
3	70	1.0	48.0	2.0	—24.0	......	......
4	80	0.0	75.0	0.0	72.0	1.04	1.04
5	85	2.0	50.0	2.0	—28.0	......	......
6	60	2.0	60.0	0.0	2.0	30.00	29.00
7	60	1.0	75.0	0.0	—14.0	......	......
8	80	2.0	50.0	0.0	—12.0	......	......
9	60	2.0	75.0	14.0	—32.0	......	......
10	58	1.0	68.0	0.0	—44.0	......	......
11	100	2.0	85.0	0.0	—10.0	......	......
12	60	1.0	60.0	35.0	32.0	1.06	1.87
Mean	69.4	1.1	64.0	8.0	—55.0	8.12	8.70
Min.	58.0	0.0	48.0	0.0	—44.0	1.04	1.04
Max.	100.0	2.0	85.0	35.0	36.0	29.00	30.00

*Microvolt seconds.

were discordant T waves and in the other the T waves were upright.

The areas under the QRS complexes and T waves were studied to determine if there is any constant relationship between these waves. They were studied in 12 normal persons, 12 runners and 12 hypertensive patients (Tables 5, 6, 7). The areas for the Q, R, S and T waves were determined separately in lead V5. The differences in the areas between the positive and negative waves of the QRS complexes were calculated. The QRS/T and R/T ratios were determined. The average for 12 normal subjects is shown in Table 5. Q waves were present generally but were small, averaging 0.7 microvolt second. The average R wave area was 31.6 microvolt seconds while the average T wave area was 43.5 microvolt seconds. The QRS/T ratio averaged 0.72; the R/T ratio averaged 0.82, which means that the areas under the R waves were nearly equal to the areas under the T waves. In the runners, the Q waves were slightly larger, averaging 1.4 microvolt seconds (Table 6). The average area under the R waves was greater, averaging 68.3 microvolt seconds, while the average area under the T waves was 95.7 microvolt seconds. The QRS/T ratio averaged 0.67. The R/T ratio averaged 0.79, being similar to that found in the normal persons. Among the hypertensive subjects, the Q waves were slightly increased over normal, being 1.1 microvolt seconds (Table 7). The areas under the R waves were less than they were in the runners, averaging 64.0; however, the T waves were distinctly lower, the average being a negative value of 55.0 microvolt seconds. It was not possible to calculate the QRS/T or R/T ratios in eight of the 12 hypertensive patients, as the T waves were discordant with the R waves. When the R/T ratio could be calculated, it averaged 8.7, which indicates that the T waves, when upright, are low compared to the amplitude of the R waves. The QRS/T ratio averaged 8.12. In certain disease states there is high voltage of the QRS complexes without discordant S-T segments and T waves. Of interest is hypertensive patient No. 4 (Table 7) who had high voltage of the QRS complex in lead V5 and who had a normal R/T ratio. The area under the R waves was 75.0 microvolt seconds and under the T wave 72.0 microvolt seconds. This gives an R/T ratio of 1.04. The electrocardiogram in this case was similar to that of the runners and was also similar to that of a patient with rheumatic aortic stenosis and insufficiency who also had high voltage of the QRS complexes with a normal R/T ratio (Figure 9). In ten adult patients with coarctation of the aorta there was increased voltage of the R waves in the left precordial leads; however, three of these patients had normal R/T ratios.

These findings may be summarized by stating that the normal subjects and runners had R/T ratios that approached 1.0, which means that the areas under the R waves and T waves are nearly equal and these waves are of similar polarity; however,

TABLE 8.—*The relationship between the type of electrocardiogram and symptoms and signs of heart disease in 30 hypertensive patients with high voltage of QRS complexes. The areas under the R waves in the two groups are similar.*

Symptoms or Signs	Normal R/T Ratios* (Concordant S-T segments and T waves)	Abnormal R/T Ratio* (Discordant S-T segments and T waves)
Dyspnea	10	60
Angina Pectoris	3	72
Cardiac Enlargement	20	60
Congestive Heart Failure	0	40
Average blood pressure	185/110	210/124

*Per cent of 30 patients.

the runners had R waves and T waves in the left precordial leads, with areas that are essentially twice as large as in the normal subjects. Hypertensive patients usually had S-T segments and T waves that are discordant with the R waves or had an abnormal R/T ratio.

The relationship between the electrocardiogram and symptoms and signs of heart disease was studied in 30 hypertensive patients all of whom had high voltage of the QRS complexes (Table 8). These patients were divided into two groups, those with normal R/T ratios and those with abnormal R and T relationships. The areas under the R waves in lead V5 were similar, averaging 68.0 and 70.0 microvolt seconds, respectively. The average blood pressures for the two groups were 185/110 in the former and 210/124 in the latter. It can be seen (Table 8) that dyspnea, angina pectoris, cardiac enlargement and congestive heart failure occurred more frequently in patients with discordant T waves than in those who had concordant T waves. Thus it is evident that patients with abnormal R/T ratios have a greater incidence of signs and symptoms of hypertensive heart disease than do the patients with normal R/T ratios.

DISCUSSION

The electrocardiogram of the marathon runner at rest is characterized by a slow cardiac rate, usually below 60 beats per minute, high voltage of the R waves in leads 2, V4 and aVf and deep S waves in the precordial leads recorded from the right side of the chest. The sum of the amplitude of the R

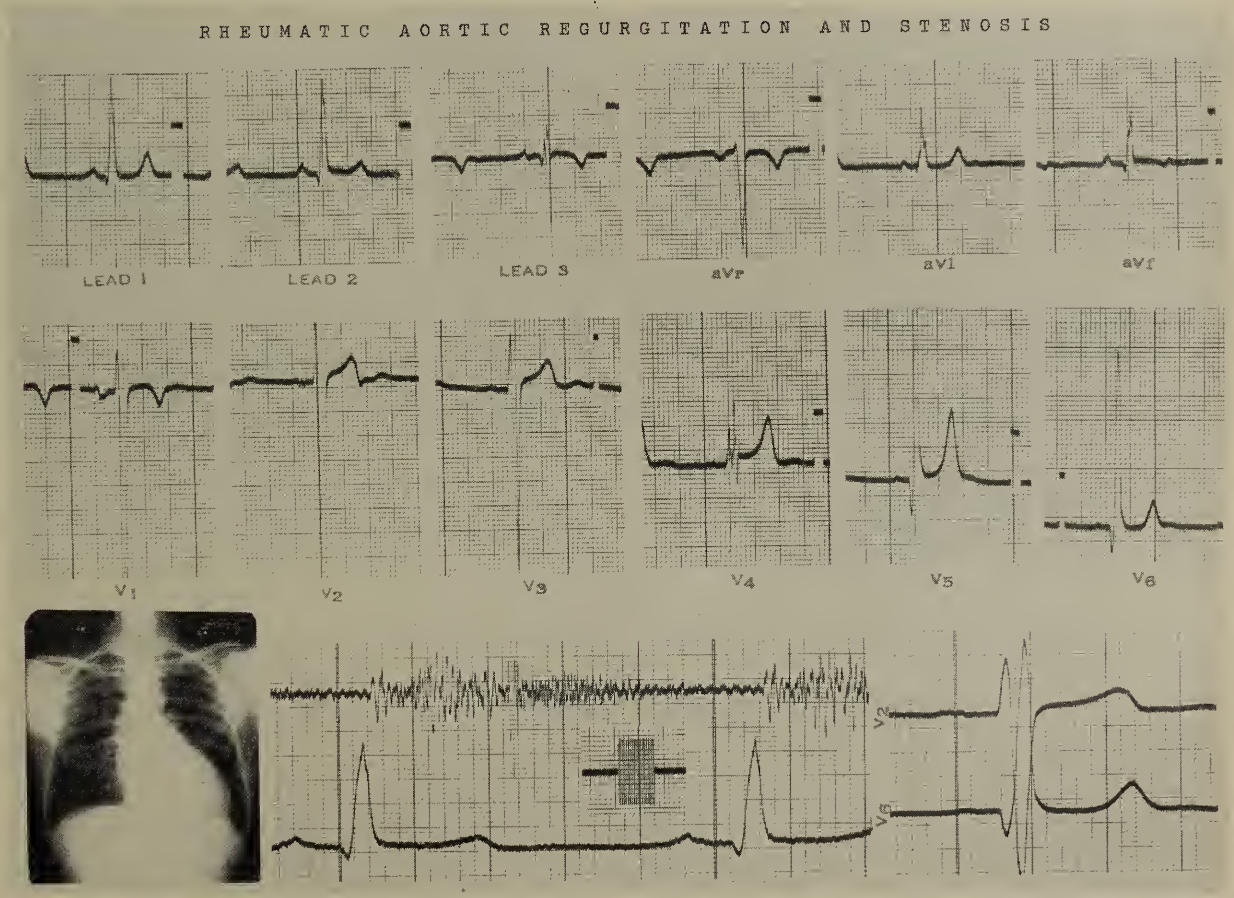

Figure 9.—Electrocardiogram and cardiac silhouette of a patient with rheumatic aortic regurgitation and stenosis. High voltage of the QRS complexes and increase in amplitude of the T waves is present. Teleoroentgenogram shows left ventricular enlargement. Lead V2 and V6 taken simultaneously with a paper speed of 75 millimeters per second show a delayed onset of the intrinsicoid deflection in lead V6 suggesting left ventricular enlargement. Stethogram shows typical systolic and diastolic murmurs over the aortic area.

waves in lead V5 added to the depth of the S waves in lead V1 exceeded the upper limit of normal in a significant percentage of the runners. The T waves were tall and a normal R/T ratio was present in all runners. R-R prime waves occurred occasionally in lead V1. All of these changes are considered characteristic of left, and to a lesser degree, of right ventricular enlargement. The presence of cardiac enlargement in runners at rest was confirmed by an increase in the cardiac area. Immediately after they had been running, the voltage of the QRS complexes and T waves increased, while the transverse cardiac silhouette decreased in all its diameters, the heart apparently being in a state of increased muscular tone. The amount of air space seen between the heart and the chest wall was not altered detectably after running. Therefore the increased voltages after running appear to be due to an increased potential from the myocardium itself rather than to a positional change of the heart, or to a more proximal position of the electrodes on the chest to the surface of the heart.

It is important to recognize that athletic exercise that calls for endurance produces cardiac enlargement that can be shown radiographically and is associated with a characteristic electrocardiogram. This is typical of physiologic hypertrophy of the heart and should be suspected among endurance athletes who have typical roentgenograms and electrocardiograms with normal R/T ratios. The transverse cardiac diameters and cardiac areas exceed 10 per cent above the predicted in a large proportion of runners at rest. These phenomena are contrasted with those of pathologic hypertrophy which characteristically occurs in patients with disease who have high voltage of the R waves and abnormal R/T ratios or by discordant S-T segments and T waves.

These studies challenge the concept of the secondary T wave in patients with increased pressures in the left ventricle (*i.e.*, essential hypertension, aortic valvular disease and other cardiac diseases). In early cases of hypertension there seems to be strain on the left ventricle with increased voltage of the QRS complexes without alteration of the T waves. This produces an electrocardiogram similar to that produced by physiologic hypertrophy of the heart such as occurs in marathon runners. Among these patients the complications and signs and symptoms of hypertensive heart diseases are few. The incidence of complications, signs and symptoms is much higher among those with discordant S-T segments and T waves. These phenomena suggest that the discordant T waves in hypertension are primary and are due, most likely, to myocardial disease. Anoxia of the endocardium, especially during systole, may be responsible for these changes, especially in patients with hypertension. Schoenmakers[4] observed that in hypertension there is an increase in the cross-sectional area of myocardial cells with a decrease in the number of capillaries per unit of tissue. This would result in chronic anoxia of the myocardium. These or other factors could be responsible for primary discordant S-T segments and T waves which are encountered in certain patients with hypertension and other disease states.

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REFERENCES

1. Beckner, G. L., and Winsor, T. W.: Cardiovascular adaptations to prolonged physical effort, Circulation, in press.
2. Hodges, P. C., and Eyster, J. A. E.: Estimation of cardiac area in man, Am. J. Roent., 12:252-265, Sept. 1924.
3. Linzbach, A.: Micrometric and histologic studies of cardiac hypertrophy, Virchows Arch. f. path. Anat., 314:534, 1947.
4. Schoenmakers, J.: Morphologic harmonics in circulatory system, Arztl. Fortschr, 2:337, 1948.
5. Sokolow, M., Friedlander, R. D.: Normal unipolar precordial and limb lead electrocardiograms, Am. Heart J., 38:665-668, Nov. 1949.
6. Ungerleider, H. E., and Clark, C. P.: A study of the transverse diameter of the heart silhouette with prediction table based on the teleoroentgenogram, Am. Heart J., 17:92, Jan. 1939.

Postural Shock in Pregnancy

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• *Signs and symptoms of shock may be produced in some patients in late pregnancy by putting them in the dorsal recumbent posture. Change from this position will relieve the condition.*

The features of the supine hypotensive syndrome can be duplicated by applying pressure to the abdomen with the patient in a lateral position.

The postural variations of venous pressure, blood pressure, and pulse appear to be due to obstruction of venous return from the lower portion of the body caused by the large uterus of late pregnancy compressing the vena cava.

When shock is observed in a woman in late pregnancy, she should be turned to a lateral position before more active measures of treatment are begun.

Shock occurring in an obstetrical patient in the antepartum, intrapartum or postpartum period is regarded as a serious condition demanding immediate investigation to determine the cause, and then prompt institution of appropriate measures of treatment. There is a form of shock, however, that sometimes occurs during late pregnancy, which is not based on any serious underlying disease and probably never causes death. Yet is is important, for recognition of the condition for what it is will spare the attending physician undue concern and will obviate unnecessary measures of treatment, some of which in themselves are not entirely without hazard.

Little has appeared in the literature regarding this interesting condition. McRoberts in 1951 reported six cases of postural shock in pregnancy. It was postulated that "in late pregnancy the uterus may obstruct the veins of the abdomen when the subject is in the strictly supine position, causing a rise in the venous pressure caudally and a fall in pressure in the right auricle."

Howard, Goodson, and Mengert[1] in 1953 reported observations and studies on this condition, which they designated "supine hypotensive syndrome in late pregnancy." Experiments they carried out on animals and studies in humans indicated that compression of the vena cava by the flaccid, near term, pregnant uterus is the etiologic factor of the observed shock syndrome.

During a period of eight months in 1951-1952, four cases which impressively demonstrated this phenomenon were observed and studied on the obstetrical service of Kern General Hospital, and since then several less striking examples have been seen in private practice as well as on the Kern hospital service. In all the cases studied, the difficulty occurred in late pregnancy, two of the patients having been in early labor when the condition was first recognized. In the other two it was discovered during routine prenatal examinations in the obstetrical clinic. In all cases the symptoms and signs of circulatory collapse or primary shock were present, such as faintness, nausea, shortness of breath, pallor, perspiration, pronounced hypotension and tachycardia; and in all cases the symptoms began when the patient assumed the dorsal recumbent posture. In each case the symptoms were promptly relieved by change from that position. No other treatment was required.

The following case histories are presented as illustrative of postural shock or the supine hypotensive syndrome.

Case 1. A 26-year-old woman who had four children and had had one abortion, with no past history of significant obstetrical difficulties and with no abnormalities in prenatal history or physical examination, was admitted to the hospital in early labor in the 39th week of pregnancy. When first observed she was lying on her back on a table in the preparation room with her legs and thighs flexed, complaining of nausea, ringing in the ears and a sensation of fainting. The systolic blood pressure was 40 mm. of mercury and the diastolic pressure could not be obtained. The pulse rate was 132 per minute and pulsations were faint in quality. The patient was extremely pale. While rapid preparations were being made for intravenous administration of a vasopressor drug, the patient turned on her right side and within 30 seconds felt better. The medication was withheld. The blood pressure was 95/60 mm. of mercury and six minutes later was 110/70 mm. The pulse rate meantime slowed to 88. The patient was asked to lie on her back again, and within two minutes the symptoms of shock reappeared. Within four minutes the blood pressure fell to 30/0 mm. and the cardiac rate increased to 132. No radial pulse

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could be detected. The fetal heart tones increased from 120 to 182 per minute. On returning to the lateral position, the patient promptly recovered. After one hour of active labor, the membranes ruptured spontaneously and the previously noted phenomena could not be duplicated. A normal living infant was delivered spontaneously.

CASE 2. The patient, 38 years of age, had obstetrical history of five full term uncomplicated pregnancies and deliveries and three abortions. Except for a gain of 29 pounds in body weight and a larger than normal uterus, there was nothing unusual in the course of the current pregnancy. The patient was admitted to Kern General Hospital in early labor, with moderate uterine contractions every five minutes, four weeks before the estimated date of confinement. The cervix was dilated to 3 cm. The blood pressure on admission was 156/80 mm. of mercury. Shortly after admission, while lying supine on a table in the preparation room, the patient fainted and pronounced pallor developed. The blood pressure was unobtainable and the pulse could not be felt. The fetal heart tones were 156 per minute. There was no evidence of hemorrhage. One cc. of Drinalfa® (methanphetamine hydrochloride) was administered intravenously and an intravenous infusion of 5 per cent glucose in distilled water was started. The blood pressure rose to 120/90 mm. of mercury but within a few minutes fell to 90/60 mm. The pulse rate was 160. An hour later the patient still complained of nausea and the skin was clammy. Drinalfa, 0.5 cc., was given intramuscularly and the blood pressure rose to 116/95 mm. while the pulse rate remained 160. A transfusion of 500 cc. of whole blood was started. Five hours after the patient entered the hospital the blood pressure was 160/90 mm. and labor had become well established. Two and one-half hours later the first stage of labor was complete, with the presenting vertex at a plus 1 station. The membranes were unruptured. The blood pressure was 150/90 mm. and the pulse rate 80. A low spinal anesthetic, using 3 mg. of Pontocaine® in 1 cc. of 10 per cent dextrose solution, was administered with the patient in a lateral position. She was then turned on her back, and within five minutes the blood pressure fell to 86/64 mm. and the pulse rate increased to 140. The level of anesthesia was T-10. Drinalfa, 0.5 cc., was given intravenously. At this point the patient was turned on her side and the blood pressure rose promptly to 150/90 mm. and the pulse rate slowed to 80. When the patient was returned to the supine position, the hypotensive syndrome promptly developed again. The changes of position were repeated several times with a repetition of the previous results. Elevation of the legs with the patient supine had no significant effect. The membranes were then ruptured artificially and thereafter the blood pressure remained constant at 150/90 mm. with the patient supine. A normal living infant was delivered spontaneously.

CASE 3. The patient, 25 years of age, was observed in her first pregnancy in the prenatal clinic at approximately the 38th week of gestation. The prenatal course had been uneventful except for recent minimal edema at the ankles. The hemoglobin content was 12.9 gm. per 100 cc. of blood. Upon urinalysis 1 plus albuminuria was noted. The blood pressure was 110/66 mm. of mercury and the pulse rate 76. Shortly after lying down on the examining table, the patient complained of nausea, then vomited and began perspiring profusely. The skin became clammy. Pronounced hypotension and tachycardia developed and the radial pulse could not be felt. The position of the patient was changed from supine to lateral and other measures of treatment were withheld. The symptoms were rapidly relieved, and the blood pressure and pulse returned promptly to normal. The patient then was moved several times from lateral to supine position and back, and each time the symptoms developed and abated accordingly. Electrocardiograms were also taken. Three weeks after the foregoing episode the patient was admitted to the hospital in early labor. The postural variations noted before were again observed. Venous pressure readings from the left arm and left leg, and blood pressure readings were recorded with the subject in both lateral and supine positions (Chart 1). With the patient lying supine, the venous pressure in the lower extremity rose as the blood pressure dropped, while in the upper extremity there was a slight fall. When the cervix became completely dilated, and the presenting part of the fetus reached a plus 3 station, the postural variations in blood pressure and pulse could no longer be demonstrated. A low spinal anesthetic was administered and a normal living infant was delivered uneventfully. No further blood pressure changes occurred. The postpartum course was normal.

CASE 4. The patient, 25 years of age, was first observed in prenatal clinic in what was estimated to be the 34th or 35th week of pregnancy. A previous pregnancy, four years before, had been uncomplicated. The patient later recalled, however, that during that pregnancy she would feel faint and become nauseated when lying on her back. The present prenatal course had not been unusual. After lying supine on the examining table for a short period, the patient complained of feeling faint and nauseated. The skin became pale, cold and moist. Pronounced hypotension and tachycardia were noted. When the patient was put in the lateral position the symptoms were promptly relieved. She was admitted to the hospital for diagnostic procedures, including electrocardiograms and venous pressure studies. With the subject in a lateral recumbent position, the blood pressure was 105/80 mm. of mercury and the pulse rate 80. Within 30 seconds after the patient turned to the dorsal recumbent position, the pressure dropped to 70/50 mm. and the pulse increased to 140, and after five minutes the pressure was 48/0 mm. The venous pressure in the left lower extremity increased in five minutes from 180 to 300 mm. of water, while that in the left arm fell from 100 to 56. Within two minutes after the patient resumed the lateral recumbent position the venous pressures returned to their previous levels. Atropine, 0.6 mg., administered parenterally did not appear to influence the postural variations of blood pressure or pulse rate.

An additional observation in this case was that the hypotensive syndrome could be produced by applying and maintaining pressure to the abdomen with a Spanish windlass with the subject in the lateral position.

The patient was readmitted to the hospital in labor about seven weeks later. No hypotensive symptoms occurred until the first stage of labor was complete, and a low spinal anesthetic (3 mg. of Pontocaine in 1 cc. of 10 per cent dextrose solution) was administered, resulting in anesthesia to the T-10 level. The blood pressure dropped to 80/60 mm. of mercury within eight minutes but returned to 110/80 within three minutes after the patient was turned from the supine to the lateral position. She was returned to the dorsal recumbent position and a rather rapid low forceps delivery of a normal living infant was carried out. Thereafter the blood pressure showed no further significant variations.

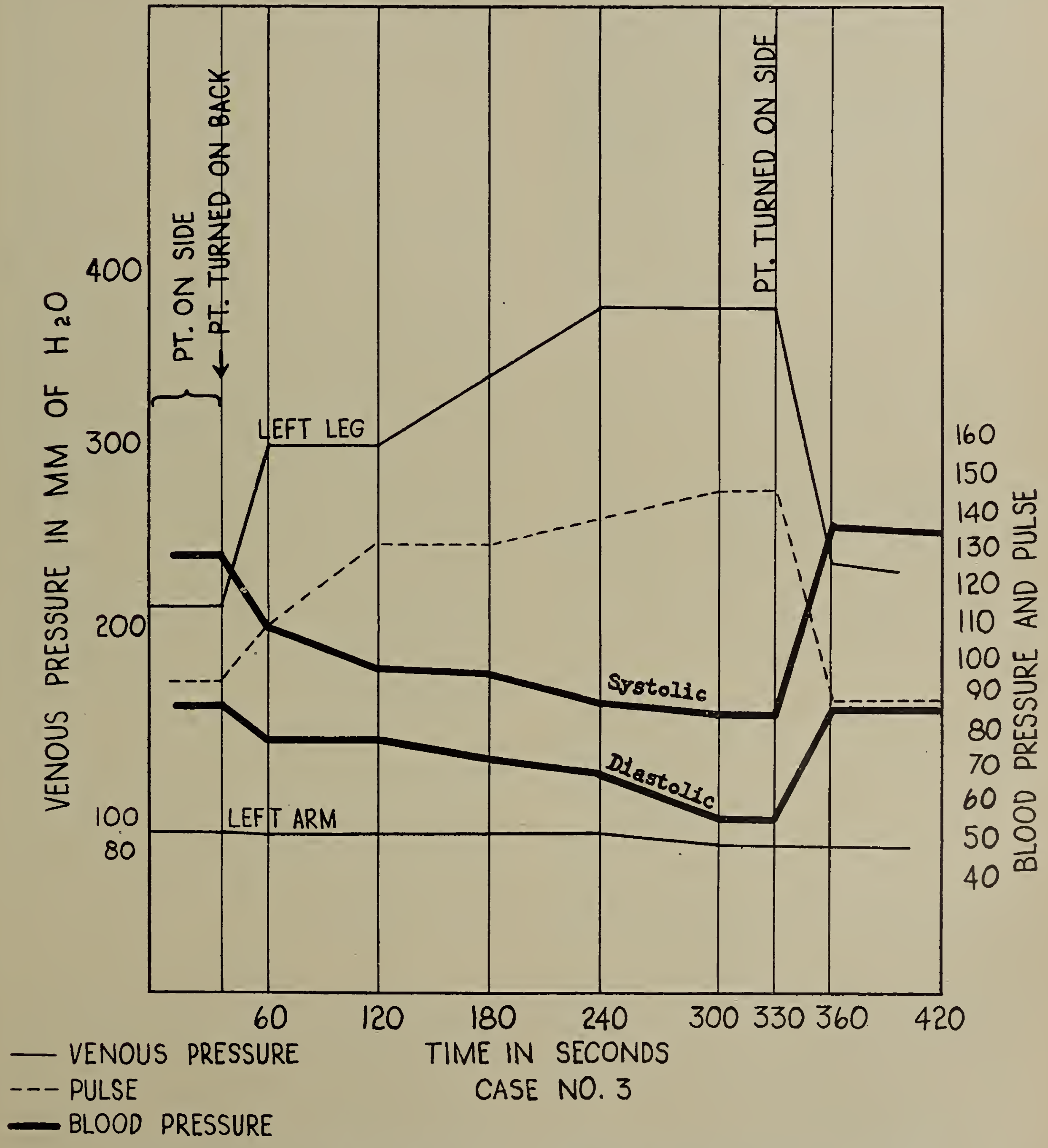

Chart 1.—Venous pressure, pulse rate and blood pressure pattern typical of postural shock.

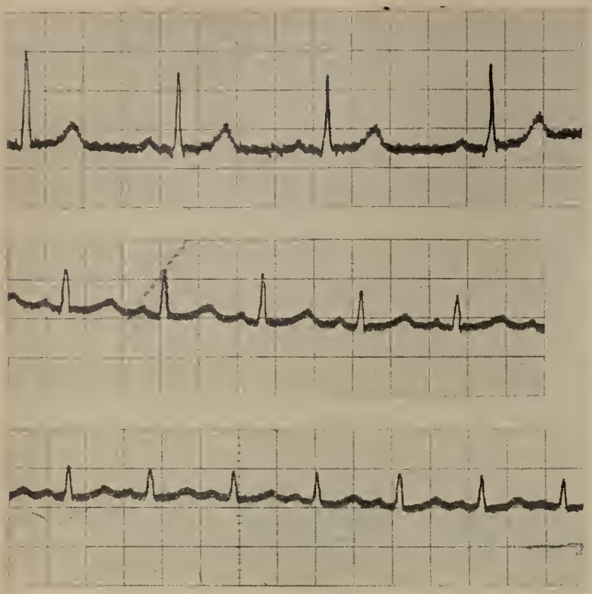

Figure 1.—Electrocardiograms (Case 4) showing effects on heart rates of change of position in postural shock. *Top strip,* Lead I with patient on side and pulse rate 80. *Middle,* Lead I with patient on back, pulse rate 140. *Lower,* Lead I with patient on side and wearing tight abdominal binder, pulse rate 140.

COMMENT

The significant features revealed by the observations and studies in the cases presented are as follows:

1. In all these patients the hypotensive phenomenon occurred in late pregnancy.
2. Change from a lateral recumbent to the dorsal recumbent position was followed by a rapid fall in blood pressure and a rapid increase in the heart rate, while change back to a lateral position was followed by prompt restoration of blood pressure and pulse, to their previous levels, as shown in Chart 1.
3. Venous pressure rose considerably in the lower extremities and decreased slightly in the upper extremities when the patient was in the supine position. Return to a lateral position restored the pressure to previous levels, as illustrated in Chart 1.
4. Blood pressure, heart rate and venous pressure values, similar to those observed with the patient in the supine position, could be produced by applying and maintaining pressure to the abdomen with a Spanish windlass. Figure 1 indicates the effect on the heart rate.

An additional observation of interest was that attempts to compress the vena cava in a nonpregnant patient with hepatomegaly, by pressure on the liver, resulted in a rise of venous pressure in the legs but no fall in arterial pressure.

These findings suggest that the mechanism of this symptom complex is compression of the inferior vena cava by the large gravid uterus, when the patient lies on her back, resulting in a pooling of blood in the lower extremities, a reduction of the return flow to the heart and lungs, and thus a decreased cardiac output. McLennan, who did extensive studies on venous pressures in pregnancy, stated that the elevation of femoral venous pressure in late pregnancy appeared to be the result of obstruction of venous return by the pregnant uterus.

It is suggested that anatomic variations in the situation of the vena cava in its relation to surrounding structures may explain why this phenomenon does not occur in all patients in late pregnancy. The fact that this shock does not occur earlier in pregnancy, and that it is not produced by compression of the vena cava in a nonpregnant subject, may possibly be explained by the fact that in late pregnancy a substantially larger percentage of the blood volume is present in the lower portion of the body. Obviously definite conclusions cannot be drawn from this small number of cases.

A knowledge of this syndrome is important for several reasons of more than academic interest. (1) Recognition may save the physician much worry and spare the patient unnecessary measures of treatment. (2) Postural shock may be superimposed upon, and may aggravate, hypotension from other causes. (3) In cases of borderline postural hypotension, vascular collapse may be precipitated by some agent which may tend to lower the blood pressure, such as a spinal anesthetic.

In view of the above information, the following suggestions would seem to be of value: When symptoms and signs of shock, without obvious cause, are observed in a patient in late pregnancy, she should be reexamined carefully in the lateral recumbent position before active measures of treatment for shock are begun. In treating shock from any cause in late pregnancy it may be wise to have the patient lying on her side rather than in the routine dorsal recumbent position. Before administering a regional anesthetic, such as a caudal or spinal, it would seem advisable to carry out the preliminary blood pressure and pulse examination with the patient in the supine position.

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REFERENCES

1. Howard, B. K., Goodson, J. H., and Mengert, W. F.: Supine hypotensive syndrome in late pregnancy, Ob. and Gyn., 1:371-377, April 1953.

2. McLennan, C. E.: Antecubital and femoral venous pressure in normal and toxemic pregnancy, Amer. J. Ob. and Gyn., 45:568, 1943.

3. McRoberts, W. A., Jr.: Postural shock in pregnancy, Am. J. Ob. and Gyn., 62:627-631, Sept. 1951.

Rheumatic Lesions in Left Atrial Appendages

Pathologic Studies of Material Removed During Mitral Commissurotomy

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• *The left atrial appendage removed incidental to mitral valve commissurotomy was studied for rheumatic lesions in 128 cases. Endocardial Aschoff bodies, which are usually considered indicative of active rheumatic disease, were found in 35.9 per cent of the cases.*

Postoperative follow-up observations were available in only 53 patients. Of these, only eight had clinical evidence of postoperative rheumatic activity. In none of this group of eight cases had Aschoff bodies been observed in pathologic study of the surgically removed left atrial appendage.

THE REMOVAL of the left auricular appendage incidental to mitral commissurotomy has supplied, in a limited sense, a cardiac biopsy specimen from patients with chronic rheumatic heart disease. The limitations are both clinical and pathological. The source of material is a selected group of patients with mitral stenosis for whom the operative procedure was considered indicated, according to criteria which vary in different clinics. One important consideration here is that known recent or active rheumatic carditis is usually a contraindication to the surgical procedure.

The pathologic limitation is that, except for rare instances of diagnostic error, the auricular appendages are from hearts which are the seat of severe mitral stenosis. In this sense the material is fairly uniform. Unfortunately it is from a portion of the heart not routinely studied at autopsy, so that reference data on this area of the heart are meager.

A number of papers have appeared reporting the pathological observations in such auricular appendages and correlating these observations with clinical data in the patients concerned, and with pathological data in rheumatic heart disease. As might be expected in mitral stenosis the auricular appendages showed a high incidence of myocardial hypertrophy and fibrosis, endocardial fibrosis and mural thrombosis. The finding which had not been expected, presumably because of the selection of patients for operation, and which has excited the most interest, was the high incidence of Aschoff bodies. In a recent report on the significance of Aschoff bodies in the left atrial appendage, Thomas and co-workers[6] tabulated the incidence of Aschoff bodies found in 469 atrial appendages reported in the literature, including 40 cases they had observed. The reported incidence varied from 16 per cent to 67 per cent and the average was 43 per cent.

Operation for mitral stenosis was performed on 204 patients at the Hospital of the Good Samaritan in Los Angeles during the period June 15, 1951, to April 16, 1954. The auricular appendage was available for pathological study in 128 of these cases. The present report is based on this group of cases.*

CLINICAL DATA

There were 102 females and 26 males in the total group. This sex difference is much greater than the natural slight preponderance of mitral stenosis in females. The age of the patient at the time of operation varied from 24 to 59 and averaged 39.9 years.

Only 11 of the 128 patients were born in California. The geographical area of birth was as follows:

North Central states	39
Northeastern states	24
Rocky Mountain states	21
South Central states	16
California	11
Other Pacific Coast states	5
Southeastern states	2
Foreign born (Canada 4)	10

Information as to the age of onset of rheumatic fever was available in 122 cases. In 61 it occurred before age 10, in 48 between 10 and 20 and in 12 after age 20. The date of last known rheumatic fever before mitral valve commissurotomy was known in 74 cases. It occurred more than five years before operation in 59 cases, two to five years before operation in 11 cases, and less than two years before in only four cases.

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*All the operations were done on the service of Dr. John C. Jones. We are indebted to Dr. Jones, Bertrand Meyer and to Drs. George C. Griffith and Wm. Paul Thompson for their valuable assistance with this paper.

Sedimentation rate (Wintrobe) was done in the immediate preoperative period on 118 patients. In 55 patients it was normal (under 6.5 mm. in one hour in males and under 15 mm. in females) and in 63 patients it was accelerated. The incidence of accelerated sedimentation rate was lower in the group of 46 patients who had Aschoff lesions (45.7 per cent) than in the group who did not have Aschoff lesions (56.8 per cent). Thus there was no correlation of accelerated sedimentation rate with presence of Aschoff bodies in the biopsy material. Similar observations were reported by McNeely and co-workers.[3]

Antistreptolysin titers were determined (method of Todd) before operation in only eight patients. They were elevated in six patients (over 50 Todd units). There was no correlation with occurrence of Aschoff bodies. None of this small group of patients showed Aschoff bodies. Increased antistreptolysin titer did correlate pretty well with elevated sedimentation rate.

PATHOLOGIC OBSERVATIONS

The auricular appendages were fixed in 10 per cent formalin and sectioned in routine fashion. There was no uniformity of method as to the number of blocks. In most intances two or three areas were blocked for section. Only one hematoxylin and eosin stained section was examined in each case, except in selected cases in which more detailed examination was made for endocardial Aschoff bodies as will be indicated below. Reticulum and elastica-van Gieson stains were used to study some of the cases in which there were Aschoff bodies.

Chronic rheumatic pericarditis evidenced by fibrous thickening and lymphocytic infiltration was noted in 26 cases. This represented 20.3 per cent of the entire group, with no significant difference (21.7 per cent) in the smaller group (46 cases) in which there were endocardial Aschoff bodies.

Myocardial hypertrophy was present in almost all cases. Fibrosis of myocardium, usually perivascular, was present in 56.3 per cent of all the cases as compared to 70 per cent in the smaller group in which endocardial Aschoff bodies were present. Fine perivascular scarring or oval lesions suggestive of healed Aschoff bodies were uncommon. Cellular Aschoff bodies in the myocardium were observed in only three cases.

Endocardial Aschoff bodies were noted in 46 cases or 35.9 per cent of the total group. In 34 of these cases the Aschoff lesions were found in a single random section of from one to three areas of the appendage. The number varied from only a few to as many as several per low-power field. In 18 cases the presence of Aschoff bodies was at first considered doubtful because of slight or rare lesions in the single section first examined. In all these cases the specimens were recut, making three to six sections at different levels. This resulted in classifying ten cases as positive and eight as negative for Aschoff bodies.

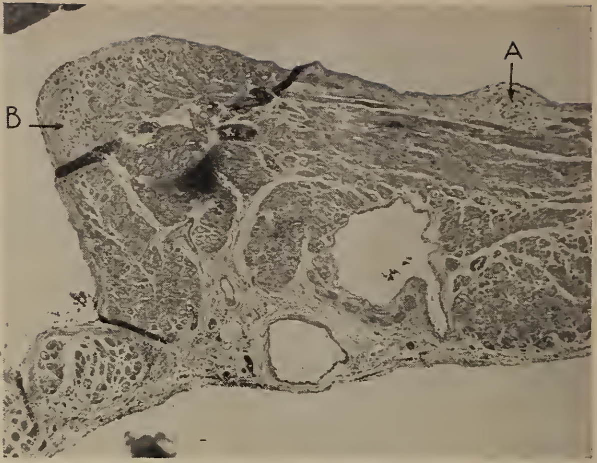

Figure 1.—Very low power view (×50) of wall of auricular appendage showing endocardial (A) and subendocardial Aschoff bodies (B).

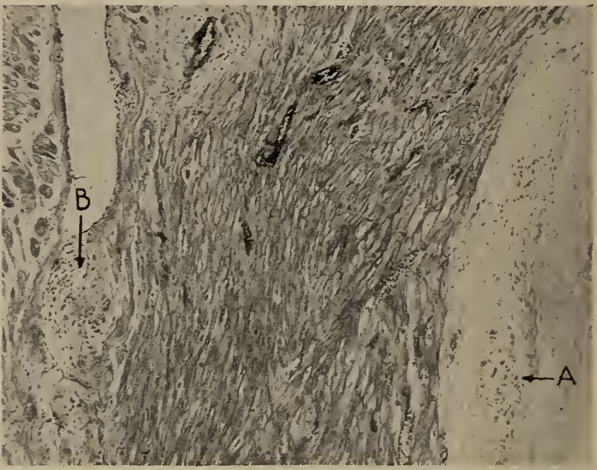

Figure 2.—Low power view (×135) showing Aschoff bodies in subendocardium (A) and in endocardial recess (B).

In 18 cases in which the original single section was negative for Aschoff bodies the specimen was recut in similar fashion and Aschoff bodies were found in two of them. The remaining "negative" cases were not further studied.

The Aschoff bodies found on the endocardium or subendocardium were morphologically similar to those in other reported series. They were mostly of reticular and mosaic types. Most of the cells present in the lesion were mononuclear, showing considerable variation in nuclear and cytoplasmic structure. Although cells with ragged borders were common, typical "owl-eyed nuclei" with chromatin radiating from vesicular centers, were uncommon. Some multinucleated cells were present. Leukocytes were infrequent. Although muscle fibers focally occur in the endocardium of the auricular appendage, the appearance of the lesions did not suggest origin from muscle cells. Both reticulum and collagen fibers were found in the lesions. Fibrinoid degeneration of collagen, or coronal arrangement of lesions, were not noted. Older lesions of the fibrillary type were rarely observed.

Mural thrombosis was noted in 60 of the 128 cases. It occurred in 30.4 per cent of the cases showing Aschoff bodies as compared to 46.4 per cent of the entire group. This lower incidence in cases showing Aschoff bodies has been noted in other reports.

Auricular fibrillation which was present in 70 of 125 cases, was, as expected, more common in the group showing mural thrombosis.

Seven of the 128 patients died in the immediate postoperative period, and autopsy was done in six of these. The major cause of death was cerebral embolism (four cases, one not autopsied), embolism to the superior mesenteric artery (one case), emboli to kidney and lower extremities (one case) and acute cardiac failure from surgically severed chorda tendineae (one case). Postmortem examination of the heart showed no Aschoff bodies in any of these six cases. However, in only one of them had Aschoff bodies been observed in the surgically removed auricular appendage. In one of the cases severe subacute focal interstitial myocarditis was noted, not definitely rheumatic in type. Another showed several fibrous myocardial nodules and fine perivascular fibrosis suggestive of chronic rheumatic myocarditis.

DISCUSSION

The pathological changes observed in the present group of cases were similar to those previously reported in the literature, including the presence of a fairly high incidence of endocardial Aschoff bodies. Most observers agree that the Aschoff body is indicative of active rheumatic disease. Hall, in Anderson's Textbook of Pathology (1st edition),[2] cited reports of an incidence of 32 to 87 per cent Aschoff bodies in acute and subacute rheumatic infections, and of 13 to 50 per cent in the hearts of subjects with healed valvular lesions. This wide variation in reported incidence is probably due to such modifying factors as variation in sites and amount of cardiac tissue studied, histological criteria of different observers, age groups studied, and geographical variations in incidence of rheumatic fever. One might expect a lower incidence of Aschoff bodies in Southern California because of the presumed lower incidence of rheumatic fever and active rheumatic carditis. However, Hall and co-workers,[2] reported Aschoff bodies in the myocardium observed at autopsy in approximately 50 per cent of subjects who had aortic stenosis.

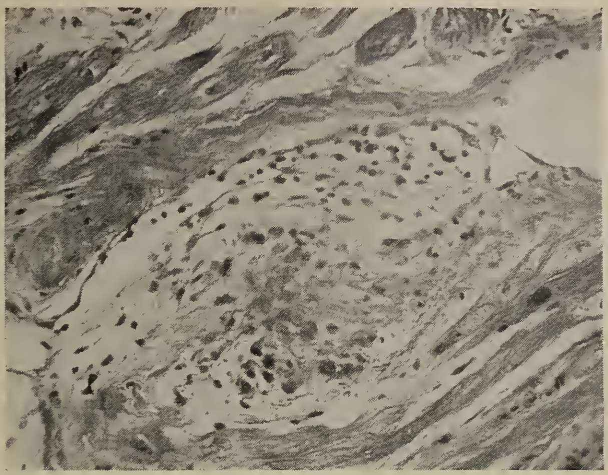
Figure 3.—High power view (×290) of Aschoff body in endocardial recess.

The left atrial appendage had not been systematically studied until attention was focused on it by the chance circumstance of the development of the mitral commissurotomy procedure. The study of Thomas and co-workers gave important information on this score. They made a retrospective study of the atrial appendage of the hearts of 40 patients who died of fulminating rheumatic fever and noted Aschoff bodies in the endocardium of the left atrium in 72 per cent of the 40 cases studied as compared to 85 per cent in other portions of the heart. In histological appearance these lesions were identical with those encountered in the surgical specimens. The atrial myocardium in both surgical and autopsy cases showed only rare involvement. Thomas was satisfied that these findings were evidence of rheumatic fever, even though the disease was not suspected clinically, and further stated that about 25 per cent of the patients operated upon had clinical evidence of rheumatic activity in the postoperative state. Half of these patients had Aschoff lesions in the atrial appendage. Soloff and co-workers[5] also reported similar incidence of reactivation of rheumatic fever following mitral commissurotomy. They found no correlation between the presence of Aschoff bodies and the occurrence of the postcommissurotomy syndrome. McNeely and co-workers[3] reported observations similar to those of Thomas with regard to the incidence of Aschoff bodies in the left atrium, and also good correlation with findings elsewhere in the heart in the fatal cases. They were not as impressed with either the frequency of postopera-

TABLE 1.—*Incidence of Aschoff bodies by age and sex (128 cases, 26 males, 102 females)*

Age	Aschoff Bodies Present Male	Aschoff Bodies Present Female	Aschoff Bodies Absent Male	Aschoff Bodies Absent Female	Total
21-30	1	10	2	6	19
31-40	3	23	3	24	53
41-50	3	6	14	24	47
51-60	0	0	0	9	9
Total	7	39	19	63	128

Total number of males	26	
Total number of males with Aschoff lesions	7	
Per cent positive		27%
Total number of females	102	
Females with Aschoff lesions	39	
Per cent positive		38.2%
Total positive		35.9%

tive rheumatic activity or the significance of Aschoff bodies as indicative or prognostic of rheumatic activity. The major correlated factors noted by them were lower incidence of Aschoff bodies with auricular fibrillation and higher incidence in the younger age groups. This has been noted by others; it was strikingly illustrated in the report of Rothschild and co-workers,[4] who noted progressive decrease in the incidence of evidence of active infection in rheumatic hearts, from 100 per cent in the first decade to none after age 70. Thus McNeely and co-workers noted Aschoff bodies in the surgically removed atrial appendage in 60 per cent of the patients between ages 20 and 40 years and in only 20 per cent in those over age 40. A similar preponderance in the younger age groups was noted in the present series, as shown in Table 1.

As was previously indicated, active rheumatic carditis is a contraindication to mitral commissurotomy. In the present series of 128 cases, follow-up information as to evidence of rheumatic activity in the postoperative period was available in 53 patients and in only eight of them was there clinical evidence of postoperative rheumatic activity. In none of this small group were Aschoff bodies noted in the auricular appendage.

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REFERENCES

1. Gross, L., Antopol, W., and Sacks, B.: A standardized procedure suggested for microscopic studies on the heart; with observations on rheumatic hearts, Arch. of Path., 10: 840-852, Dec. 1930.

2. Hall, E. F., in Anderson's "Textbook of Pathology," first edition. C. V. Mosby Co., 1948.

3. McNeely, W. F., Ellis, L. B., and Harken, D. E.: Rheumatic "activity" as judged by the presence of Aschoff bodies in auricular appendages of patients with mitral stenosis, Circulation. 8:337-344, Sept. 1953.

4. Rothschild, M. A., Kugel, M. A., and Gross, L.: Incidence and significance of active infection in cases of rheumatic cardiovalvular disease during the various age periods, Am. Heart J., 9:586-595, June 1934.

5. Soloff, L. A., Zatuchni, J., Janton, O. H., Thomas, J. E., O'Neill, T. J. E., and Glover, R. P.: Reactivation of rheumatic fever following mitral commissurotomy, Circulation, 8:481-493, Oct. 1953.

6. Thomas, W. A., Averill, J. H., Castleman, B., and Bland, E. F.: The significance of Aschoff bodies in the left atrial appendage, New Eng. J. Med., 249:761-765, Nov. 5, 1953.

Determining the Site of Brain Tumors

The Use of Radioactive Iodine and Phosphorus

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• *By tests using radioactive iodine combined with diiodofluorescein, the site of tumors was correctly determined in 61 per cent of 39 cases of tumors of the cerebral hemispheres. In 19 cases where the focal radioactivity was increased 24 per cent or more over that of the surrounding area, there were no errors in localization. Fifteen patients with expanding intracranial lesions were tested at operation with radioactive phosphorus and 14 lesions were correctly localized. This procedure in which the needle probe was used was found of great value in rapidly locating and outlining the area of involvement.*

Radioactive isotopes of various elements are being used with increasing frequency to determine the site of brain tumors. There is still a difference of opinion regarding the accuracy of the results achieved, but in certain cases tests with radioisotopes appear to be of value. One of the most attractive features of these tests is that they are not harmful to the patient and the cost is not prohibitive. Various ions are selectively taken up by most brain tumors, and when these ions are radioactive their presence can be detected by radiation-sensitive counters. The type of radiation found useful in some circumstances may not be useful in others. For example gamma radiation, such as is given off by radioactive iodine, is able to penetrate the intact skull and is used to help determine the site of the lesion before the bone flap is turned at operation. After the skull is opened, beta rays, which are emitted by radioactive phosphorus, are the type found to be of value for precise determination of the location of the tumor. These travel only a few millimeters and are not picked up at a distance from the source. Thus the sensitive elements of the recording device must be in, or almost in, the substance of the tumor to pick up the rays.

The original work on the use of radioisotopes to determine the site of brain tumors was done by Moore and associates at the University of Minnesota in 1947.[5] Radioactive iodine combined with diiodofluorescein was used, but in this combination the radioactivity was soon lost, the dye being rapidly excreted through the liver. More recently radioactive iodine has been combined with human serum albumin and in such a state the radioactivity is maintained much longer.[3] The test can be repeated as necessary and the results confirmed. Geiger counters were used in the early work but later the more sensitive scintillation counters came into use.[8] With the scintillation counter an adequate test can be made in about 45 minutes as compared with the two to three hours required for the original technique.

A number of positron-emitting isotopes such as copper —64, manganese —52, and arsenic —74 have been tried, but only radioactive arsenic is reportedly being given an extensive trial in the localization of brain tumors.[2] Each positron combines with a free electron and mutual annihilation occurs. In this process two gamma rays called annihilation radiation are emitted in opposite directions. Only the annihilation radiation is picked up by the instrument employed. It is thus possible to eliminate scatter, and a relatively stronger radiation is found coming from the tumor where the radioactive material is concentrated.

Selverstone[7] and associates at Harvard first used radioactive phosphorus to define the location of tumors at the time of operation. A Geiger counter in the end of a probe 2 mm. in diameter was passed into the brain and the tumor was detected by the increased counting rates when neoplastic tissue was encountered. Tumors that were difficult to locate by other means could generally be found without undue difficulty.

METHOD AND RESULTS

Use of needle probe. In Chart 1 the experience of the authors in using radioactive phosphorus to determine the location of expanding intracranial lesions at operation is illustrated by six representative cases. This test was used in a total of 14 patients

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Presented before the Section on Psychiatry and Neurology at the 83rd Annual Session of the California Medical Association, Los Angeles, May 9-13, 1954.

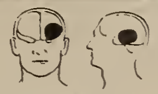
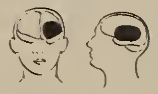
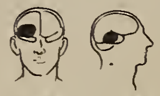
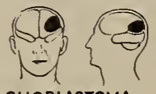
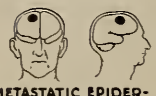
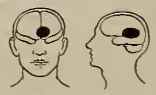
CASE	TUMOR SITE AND TYPE	DIFFERENTIAL COUNT $\frac{\text{RADIOACTIVITY of TUMOR}}{\text{RADIOACTIVITY of BRAIN}}$	COMMENT
♂ AGE: 51 YRS.	 GANGLIOGLIOMA	8:1	TUMOR LOCATED WITH RADIOISOTOPE NEEDLE THROUGH BURR HOLE. BIOPSY OBTAINED BEFORE BONE FLAP WAS TURNED.
♀ AGE: 45 YRS.	 MALIGNANT GLIOMA	5:1	TUMOR DIFFUSE, NO DIFFERENCE IN TEXTURE NOTED WHEN VENTRICULAR NEEDLE WAS PASSED IN TO BRAIN. WITH RADIOISOTOPE NEEDLE, TUMOR LOCATED, BIOPSY TAKEN.
♂ AGE: 29 YRS.	 ASTROCYTOMA	7:1	TUMOR EXTENDED INTO BASAL GANGLIA. HEMISPHERECTOMY WOULD HAVE BEEN REQUIRED FOR A CURE. RADIOISOTOPE NEEDLE OUTLINED EXTENT of TUMOR.
♂ AGE: 59 YRS.	 GLIOBLASTOMA MULTIFORME	15:1	EXTENT OF CYSTIC TUMOR DETERMINED WITH RADIOISOTOPE NEEDLE. TOO DEEP IN MAJOR HEMISPHERE FOR REMOVAL.
♂ AGE: 69 YRS.	 METASTATIC EPIDERMOID CARCINOMA FROM BLADDER	5:1	TUMOR SMALL, NOT LOCATED UNTIL RADIOISOTOPE NEEDLE WAS USED.
♂ AGE: 39 YRS.	 MALIGNANT ASTROCYTOMA	8.5:1	TUMOR NOT LOCATED UNTIL RADIOISOTOPE NEEDLE WAS USED. SATISFACTORY BIOPSY TAKEN. TUMOR UNRESECTABLE.

Chart 1

TABLE 1.—*Accuracy of localization of 39 tumors of cerebral hemispheres with radioactive iodine (tagged with albumin or diiodofluorescein) when 10 per cent increase in activity was accepted as "foci"**

	No. Cases
Foci over site of tumor	24
Foci not over site of tumor	6
Foci not present	9

*Foci = point at which radioactivity as measured externally with scintillation counter is greater than in surrounding area or in corresponding area in opposite cerebral hemisphere. (In the data in this table "foci" was point where there was as much as 10 per cent increase in activity.)

and the only failure was in a patient with a brain abscess. In the 14 cases of tumor the neoplasm was found without difficulty. The radioactivity of the most active portion of the cerebral neoplasm was never less than five times the activity of the normal brain. In one case, that of a very vascular meningioma, the radioactivity of the new growth was 60 times that of the surrounding cerebral tissue.

The counter makes a clicking sound that is clearly audible in the operating room and when the sensitive tip of the needle is passed into the tumor the increase in the counting rate is usually obvious. It is only occasionally necessary to wait for the physicist to make a complete count before the location of the tumor is known.

It was often possible to estimate the gross extent of a tumor before the surgical incision was made. At times the lesion was located through a solitary burr hole and some idea of its size gathered by measuring the depths at which increased radioactivity was encountered. In some cases, however, the spread of the tumor was greater than indicated in tests with the needle, as parts of tumors at times gave negative responses.

Five hundred microcuries of radioactive phosphorus were given adults of average size. The material was administered intravenously at intervals that varied from 2 to 3 minutes to 2 hours before the radioactivity was determined. The phosphorus was often not injected until after the operation had commenced and it had become obvious that the lesion would be difficult to find. This method of finding the tumor was used when necessary as an emergency procedure and the level of radioactivity in the tumor was found to be adequate within a few minutes after the injection.

External localization. At first, radioactive iodine labelled with diiodofluorescein was used in attempts to localize brain tumors prior to operation. The dosage given was usually 1 millicurie. However, since diiodofluorescein rapidly disappeared from the circulation during the examination, iodine in combination with albumin was used later. In the latter combination the radioactivity is maintained at a useful level for at least 48 hours, and it is possible to repeat the test and establish the validity of the findings.

One hundred and thirty-eight patients who were thought to have intracerebral lesions were tested. Fifty of them had brain tumors that were confirmed by microscopic examination of tissue removed at operation. In 11 cases the tumors were in the posterior fossa or the midline, and were unsuitable for testing by this means. Lesions in the posterior fossa are shielded by heavy muscles and midline lesions give counting rates that are equal on both sides. The remaining 39 neoplasms were in the cerebral hemispheres where they would be nearer the counter.

It was decided that any sustained increase in local radioactivity of 10 per cent or more over that of the surrounding area would be considered significant when 1,024 counts were made. When that standard was used foci of increased radioactivity were found over the tumor in 24 cases (61 per cent of the 39 hemispheral tumors [see Table 1]). Foci were found in areas other than over the tumor in six cases (15 per cent). These false localizations were most common in relatively avascular tumors, e.g., astrocytomas, and it was apparent that the normal brain in

TABLE 2.—*Use of radioisotope test (iodine) as screening test for organic brain disease*

Diagnosis	No. Cases	Focus Found
No organic brain disease	16	1
Cerebral atrophy	23	8
Cerebrovascular accident (any type)	12	10
Brain tumor (any location)	50	34

such instances had picked up more of the radioactive ion. In nine cases (23 per cent) there was no focal increase in radioactivity.

It was obvious that a failure to find a focus of increased radioactivity was of no value in ruling out the presence of a tumor. Additional study was made of those cases of neoplasm in which focal activity was found. Foci of activity were present in 30 of the 39 hemispheral tumors, and in 24 of the 30 the increased radioactivity was over the tumor. Therefore if the negative findings were discarded the focal activity, when present, was over the tumor in 80 per cent of the cases.

There were a number of instances in which the increased radioactivity was much greater than the 10 per cent increase that had been originally determined as being a significant variation and it was thought that in these the findings might be somewhat more reliable. There was no case of false localization in which the local radioactivity was increased by more than 20 per cent. There were 19 cases in which the local cerebral radioactivity was increased by 24 per cent or more, and in all of these the increase was over the site of the tumor. Although there was a high degree of accuracy of localization if only the cases in which the activity was strongly positive were considered, it is unfortunate that such findings were present in slightly less than half the tumors of the cerebral hemispheres that were studied.

The radioisotope test was positive in many diseases other than neoplastic (see Table 2). For example, foci of increased radioactivity were found in 10 of 12 cases of cerebrovascular accident. Foci were also found in 8 of 23 cases of idiopathic adult cerebral atrophy. In 50 brain tumors in all locations in the intracranial cavity, foci were found in 34 (68 per cent). However, a false positive result was found in only one of the 16 cases studied in which no evidence of organic brain disease was found.

GENERAL CONSIDERATIONS

Certain pathologic disturbances in the brain, e.g., tumors, inflammations, vascular diseases, tend to increase the rate of passage of some ions across the so-called "blood-brain barrier." If these ions are made radioactive their presence can be detected by sensitive instruments. In tumors there may be additional factors at work; increased metabolic activity, for example, might cause the phosphorus ion to concentrate.

Peyton and others reported they were able to localize correctly 65 per cent of brain tumors.[6] Ashkenazy and associates claimed an accuracy of 90 per cent in 150 verified space-occupying lesions.[1] Other reports told of varying degrees of success. The difference in results with various groups of patients has been difficult to explain. It seems probable that in only those cases where the tumor is in the lateral portion of the cerebral hemispheres and is of sufficient size, will the test be of value in localizing the lesion. It is usually possible by other means, e.g., ventriculography or angiography, to determine whether or not the tumor is in the cerebral hemispheres. When it has been ascertained that the tumor is in the cerebral hemisphere, the authors believe, the radioisotope test may give important additional information as to the site. It has not been of help in localizing posterior fossa or midline neoplasms. The radioisotope test appears to be of help in screening groups of persons who are suspected of having organic intracerebral disease. It is thought that the findings of a focus of increased radioactivity should arouse a strong suspicion that a neurological lesion is present.

Brain tumors are often difficult to localize at operation even after all available diagnostic means have been used. Selverstone and co-workers demonstrated that radioactive phosphorus injected before or during operation would produce a sufficient increase in radioactivity in the tumor to enable localization with a needle Geiger tube.[7] Morley and Jefferson in England had similar success in 32 cases of brain tumor.[4] At the White Memorial Hospital it was possible to localize 14 out of 15 expanding lesions. The one failure was in a case of abscess.

The authors believe the use of this technique to be a useful adjunct to the other means of locating a tumor at the time of operation. The tumor can often be found more rapidly and with less trauma to the brain. In certain cases it is possible to find the lesion and obtain a specimen for biopsy through a solitary burr hole. If the lesion be highly malignant and deep, major craniotomy can be avoided. The technique in which radioactive phosphorus is used to localize tumors during operation has been found to be very accurate. The method using radioactive iodine-tagged human serum albumin to study the patient before operation has been found to be much less accurate. However, the authors believe this latter procedure deserves a place in the study of intracerebral tumors as well as other types of brain disease.

At present the accuracy of the results achieved preoperatively is not great enough to allow its use alone in determining the site of the pathological process. However, the presence of a focus of increased activity above 20 per cent in the series of cases studied at the White Memorial Hospital always indicated the correct location of the pathology in cases of tumor.

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REFERENCES

1. Ashkenazy, M., Davis, L., and Martin, J.: An evaluation of the technique and results of the radioactive diiodofluorescein test for the localization of intracranial lesions, J. Neurosurg., 8:300-314, May 1951.

2. Brownell, G. L., and Sweet, W. H.: Localization of brain tumors with positron emitters, Nucleonics, 11:40-45, Nov. 1953.

3. Chou, S. N., et al.: Radioactive isotopes in localization of intracranial lesions; survey of various types of isotopes and "tagged compounds" useful in diagnosis and localization of intracranial lesions with special reference to use of radioactive iodine-tagged human serum albumin, Arch. Surg., 63:554-560, Oct. 1951.

4. Morley, T. P., and Jefferson, G.: Use of radioactive phosphorus in mapping brain tumours at operation, Brit. M. J., 2:575-578, Sept. 13, 1952.

5. Moore, G. E.: Fluorescein as an agent in the differentiation of normal and malignant tissues, Science, 106:130-131, Aug. 8, 1947.

6. Peyton, W. T., Moore, G. E., French, L. A., and Chou, S. N.: Localization of intracranial lesions by radioactive isotopes, J. Neurosurg., 9:432-442, Sept. 1952.

7. Selverstone, B., Solomon, A. K., and Sweet, W. H.: Location of brain tumors by means of radioactive phosphorus, J.A.M.A., 140:277-278, May 21, 1949.

8. Ter-Pogossian, M., Ittner, W. B., III, Seaman, W. B., and Schwartz, H. G.: A scintillation counter for the diagnosis and localization of intracranial neoplasms, Am. J. Roent., 67:351-359, March 1952.

Messages to Patients

The Public Relations Department of the California Medical Association reported recently that a record total of more than 1,000,000 of the personal physician-to-patient messages have been ordered by the physicians of the state for distribution to their patients and their families.

The messages cover a variety of down-to-earth medical topics and are being made available to C.M.A. members without charge.

Newspapers throughout the state have publicized the profession's desire to make emergency medical care available at all times and the willingness of physicians to discuss matters revolving around the selection of the best prepaid medical care plans and the matter of fees.

This publicizing of the individual physician's sincere desire to be the patient's "health engineer" has also resulted in a number of favorable editorials in important publications.

While comparative figures are not available, it is reasonable to assume that this single public relations effort, in terms of the number of printed pieces of literature for patients, far exceeds that of any other state. A.M.A.'s Public Relations Department has reported a total printing of 2,176,000 pamphlets, circulars and reprints for the entire nation.

California physicians may also take pride in the fact that more than 7,000 doctors in the state—about as many as in all the rest of the 47 states—now display the A.M.A. plaque on fees and services in their offices. The plaque has been termed one of the most fundamental of all public relations tools for physicians.

The C.M.A. personal messages are still available in any quantity to all C.M.A. members. They may be ordered through the California Medical Association, 450 Sutter Street, San Francisco 8.

Estrogen Metabolism in Men

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• *In studies of men's capacity for estrogen inactivation in health and disease, it was observed that patients with prostatic cancer had enhanced ability to inactivate estrogenic hormones. This ability might well lead to excessive androgen stimulation, thereby providing favorable hormonal environment for the development of prostatic cancer. Extension or regression of the malignant process did not affect this peculiar pattern of estrogen metabolism. It is possible, therefore, that the pattern may not be related to the cancer process itself but to some inherent tendency in the individual. Upon speculation as to whether or not this tendency is found in the liver, which is known to be the principal site of estrogen inactivation, studies of patients with liver damage were carried out and the results indicated that the liver possesses a tremendous reserve for inactivation of the estrogens in men.*

Studies on estrogen concentration in the bile indicated that estrogens are not eliminated rapidly from the human body through the biliary tract. However, this does not hold true for experimental animals.

Observations on endogenous estrogen excretion in men did not support the concept that benign prostatic hypertrophy is due to an elevated estrogen-androgen ratio.

Discussion of estrogen metabolism in men may seem pointless, since ordinarily estrogens are associated with the opposite sex. However, with refinements in hormone estimations it has been demonstrated that estrogens, as well as androgens, are common to both sexes—the only difference being one of ratio. Because of these observations, the terms *sex hormone balance* and *sex hormone imbalance* are used in relation to endocrine disturbance involving the sex hormones.

The androgens in general stimulate the development and functional activity of the accessory sex organs in males, while the estrogens do likewise in females. Gonadectomy causes atrophy and impaired function of the accessory sex organs in either sex. Since the androgens and estrogens are mutually antagonistic, however, "chemical gonadectomy" may take place in instances where an excess of the opposite sex hormone occurs. This excess may arise either from increased elaboration, as in the presence of tumor in a gland which secretes sex hormones, or from decreased elimination or inactivation, as in the case of liver damage. Whether or not the estrogen-androgen antagonism neutralizes directly at the site of the accessory organ, or indirectly with mediation by way of the pituitary, the end result is the same—organ atrophy and loss of function. Also, certain vestigial organs of the opposite sex, such as the female clitoris and the male breast, may respond to the altered sex-hormone ratio by abnormal growth. Thus many conditions such as gynecomastia, testicular atrophy, palmar erythema, spider nevi, benign prostatic hypertrophy, mastopathy, hirsutism, menstrual disorders, and even cancer, have been ascribed to some form of sex-hormone imbalance.[16]

It is interesting to consider what constitutes normal sex-hormone balance in either sex, and what might be regarded as imbalance sufficient to cause atypical stimulation of accessory sex organs. These considerations require quantitative data on estrogen as well as androgen levels in normal and diseased states. At present these levels can only be inferred from the urinary excretion patterns, since there is as yet no satisfactory method for determining the amounts of sex hormones in the blood. There are many articles in the literature dealing with colorimetrically determined androgen excretion in men and women. Little collateral information on estrogen excretion exists, however, because of the problems encountered in chemical determination of estrogens in body fluids. For example, the average man excretes in the urine approximately one thousand times as much androgenic as estrogenic material on a weight basis.

In spite of difficulties, progress has been made in developing methods of estrogen measurement in body fluids. For the past ten years, one of the authors (B.F.S.) has worked on methods for fractionation and colorimetric estimation of the estrogens in

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human urine, bile and feces. Concurrently these procedures have been used to determine the nature and amount of estrogens in healthy and diseased men. Up to the present, three estrogenic hormones have been isolated from human sources. They are α-estradiol,* estrone, and estriol. Although they are closely related in chemical structure, they vary almost tenfold from each other in their estrogenic potency in ovariectomized rats.[7] α-estradiol, the most active of the three, is considered the true ovarian hormone, while estrone and estriol are probably less active transformation products. Supporting these lines of reasoning is the observation that the major estrogenic activity in sows' ovaries is due to α-estradiol,[17] and that α-estradiol injection in man leads to excretion of α-estradiol, estrone, and estriol.[21]

While pregnant women may excrete as much as from 30 to 50 milligrams of estrogen per day in the urine, nonpregnant women excrete approximately one thousandth as much estrogenic hormones. Removal of the ovaries in pregnant women makes no significant alteration in the high estrogen excretion titer. The human placenta, therefore, is recognized as a potent source of estrogenic hormones. Although pregnant women excrete prodigious amounts of estrogen as compared to nonpregnant women, 90 per cent or more of the total estrogen in pregnancy is estriol, which is relatively low in estrogenic potency.

Consecutive daily estrogenic hormone determinations have shown that estrogenic hormone excretion in nonpregnant women fluctuates in a rhythmic pattern corresponding to the phase of the menstrual cycle—highest at about the time of ovulation and lowest immediately before menstruation. However, the disturbing observation that ovariectomized women, normal men, and eunuchoid men excrete measurable amounts of estrogenic substances in urine required explanation. An explanation was provided in 1938 when Dingemanse and co-workers in Holland succeeded in isolating 6 mg. of pure estrone from 17,000 liters of men's urine[5]—the same estrogen discovered earlier in follicular fluid and in the urine of pregnant women. Beall isolated this estrogen from adrenal glands of cattle two years later.[1] In 1945 Mason reported estrone isolation in more than one-hundredfold concentration from the urine of a nonpregnant woman with an adrenal cortical tumor.[19] In collaboration with Landau, Stimmel recently reported estrogen excretion in a man with a feminizing tumor of the adrenal gland.[13] This patient's urinary estrone, estradiol, and estriol excretion was five to ten times the levels in normal men, but estrogen titers became normal after excision of the tumor. The adrenal cortex has thus been identified as a potential source of estrogens in men. The adrenal cortex synthesizes androgens also, and adrenal cortical hyperactivity more frequently results in masculinizing rather than in feminizing changes.

Since the estrogens are found in the adrenal cortex, as well as in the ovary and placenta, other endocrine glands might be suspected of estrogen elaboration in men. Paradoxically, stallion urine is the richest known source of α-estradiol—the most potent natural estrogen.[15] The estrogen content of horse testes[2] is higher than that of any other endocrine organ studied so far. The authors were unable to detect any pronounced decrease in estrogen excretion in men who had bilateral orchiectomy, but feminizing influences of testicular origin in men have been reported.[18] Recent evidence indicates that the human testis does contain traces of the estrogenic hormone.[10]

Endocrinologists have long been aware that hormone elaboration is only one of many factors involved in the maintenance of optimum hormone levels in the organism. As early as 1934, Zondek demonstrated that, in a matter of a few hours, only a small per cent of estrogen injected into a rat could be recovered from the comminuted animal and its excreta.[26] This demonstration opened a wide field of experimentation in regard to elaboration, utilization, inactivation and excretion of the estrogens. Since Zondek showed that the organism readily inactivates estrogens, it is logical to assume that the so-called target organs of estrogen stimulation, such as the uterus and breast, transform the estrogens in the course of their utilization. However, in vitro studies with surviving tissue slices from the so-called target organs—the human nonpregnant endometrium[25] and prostate gland,[14] for example—have not supported this view. In fact, these studies have pointed invariably to the liver—a so-called nontarget organ—as the most active in estrogen inactivation. The studies with tissue slices merely indicate what capacity a tissue may possess for hormone inactivation, without positive proof that this mechanism functions in the intact organism. Experiments involving perfusion of whole organs, on the other hand, are inconclusive, as far as estrogen inactivation is concerned.

To circumvent the problems mentioned, as well as the factor of species differences, the authors have directed their attention to estrogen metabolism studies in men. Other investigators already have reported a few studies of this kind in the literature. In these studies, massive doses of the natural estrogens were utilized,[11] and quantitative relationships were sacrificed for positive identification of the transformation products of the injected material. In one such study, seven men were injected with a total of 1 gm. of estrone,[5] and 30 liters of postinjection urine were processed for α-estradiol, estrone and estriol. While the reported estrogen recoveries were small—less than 5 per cent—these and similar studies definitely established that the natural estrogens undergo the same transformations in men as in women. These transformations may be expressed as follows: α-estradiol $\rightleftarrows$ estrone $\rightarrow$ estriol.

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*Now designated estradiol 17β.

While experiments involving massive doses of estrogens and pooled excreta provide valuable clues to general metabolic processes, they do not supply adequate data concerning possible variation of these processes in health and disease. In order to meet this need, the authors developed quantitative analytical procedures for fractionation and spectrophotometric estimation of the natural estrogens in the urine of men, following treatment with a single therapeutic dose of 2 to 5 mg. of the hormone.[22] When the procedure was carried out, it was observed that 5 to 20 per cent of the injected dose of α-estradiol was excreted in the urine. Only a small fraction of this material was unchanged α-estradiol. The major portion of it was estrone and estriol. Much smaller amounts of these three estrogenic hormones appeared in the feces.

α-estradiol, estrone, and estriol appeared in a fairly uniform pattern in the urine excreted 48 hours after the injection. Bilateral orchiectomy did not alter this pattern significantly.[20] Therefore, the human testis does not seem to participate in exogenous estrogen metabolism. However, approximately 75 per cent of men with prostatic cancer showed an increased capacity for converting estrone to estriol, after injection with a single 2.0 mg. dose of estrone.[20] That is, exogenous estriol was the major urinary estrogen recovered from patients with prostatic cancer, while estrone was the major estrogen recovered from normal men. This characteristic "cancer pattern" was not altered by subsequent orchiectomy, nor did it appear in men with primary cancer elsewhere in the body. Similarly, extension or regression of the malignant process did not cause pronounced alteration in the pattern.

If it is assumed that estrone-to-estriol conversion is a link in the estrogen inactivation mechanism, then men with prostatic cancer can be said to have a more efficient estrogen inactivation mechanism than noncancerous men. If this mechanism acts only on the estrogens and not on the androgens, it might upset the normal androgen-to-estrogen ratio and thereby subject the individual to abnormal androgen stimulation. This stimulation has been postulated as one of the factors in the origin and growth of prostatic cancer.[12] The beneficial effects of castration and estrogen therapy support this concept.

Since the liver is the most active organ in estrogen inactivation, and since many clinical symptoms of hyperestrinism have been associated with liver damage, observation of estrogen metabolism in the presence of liver damage seemed relevant.[16] With this in view, estrogen metabolism was studied in patients with Laennec's cirrhosis of the liver. Earlier reports in the literature, based on bioassay methods,[9] contended that persons with cirrhosis showed almost no capacity for estrogen inactivation, since they excreted 80 to 90 per cent of the injected dose of α-estradiol—unaltered—in the urine. These excretion data indicated that cirrhotic patients could not convert α-estradiol to estrone and estriol. The total recovery of estrogens in these patients was only slightly higher than in noncirrhotic patients. Not until these patients were almost moribund was pronounced alteration noted in their capacity to metabolize the exogenous estrogens. Therefore, pronounced impairment of estrogen metabolism in the cirrhotic patient can be considered indicative of extremely poor prognosis. When the cirrhotic patient's impaired capacity to convert estrone to estriol is compared with the prostatic cancer patient's enhanced capacity for this conversion, it may be seen that they are in direct opposition to each other, as far as estrogen metabolism is concerned. The patients with prostatic cancer, even if near death, still retain the capacity to inactivate the estrogens by conjugation.

Recent studies with radioactive estrogens in rats and mice have yielded the surprising evidence that the biliary tract in the rodent overshadows the urinary tract as an excretory route for radioactive substances.[3] Only when the bile duct was ligated did significant amounts of radioactive substances traverse the urinary tract. The inference from these experiments is that in rats and mice the urinary tract is not the major excretory route for estrogen. However, radioactivity alone, and not estrogenic activity, was followed in these experimental animals.

In order to determine whether or not the observation that the liver is the major excretory organ in man is correct, the authors treated patients who had drainage tubes inserted in the common bile duct with known amounts of the natural estrogens. The amounts of estrogens excreted simultaneously in the bile and urine were measured spectrophotometrically.[23] These exogenous estrogen excretion studies indicated that, while significant amounts of estrogen are excreted in the bile, the rate of excretion is only one-third to one-half that noted by way of the urine. Thus man differs from rats and mice in this important respect. The difference is analogous to that found for testosterone by Gallagher and co-workers.[8]

Even though in humans the liver may not be as active as it is in rodents, possibly the biliary estrogens are reabsorbed into the portal circulation from the intestines and undergo what is called enterohepatic circulation, which leads to their ultimate destruction. In light of the postulation by Cantarow and co-workers[4] that there is enterohepatic circulation of the estrogens, similar to that observed for the bile acids, the authors studied the absorption of the natural estrogens from the lower intestinal tract. Men treated with rectal suppositories containing known amounts of the natural estrogens excreted as much estrogen in the 48-hour post-treatment urine as they did when the estrogens were injected parenterally. Therefore, estrogen absorption, even from the rectum, proves quite effective, and enterohepatic circulation may be instrumental in recycling estrogen through the human liver. In view of the known interaction of the intestinal flora with certain labile substances such as bilirubin, the possibility of interaction of the flora with estrogens during enterohepatic circulation must not be overlooked. Hence human feces were incubated with estrone and it was observed that this estrogen was reduced almost quantitatively to α-estradiol. Because in ovariectomized rats α-estradiol is five to ten times as potent as estrone,[7] the significance of the observation as related to hormonal homeostasis in man becomes obvious—especially in view of the observation that estrogens are readily absorbed from the lower intestinal tract.

The work discussed so far centers around the fate of exogenous estrogens in men. These studies are highly informative because they provide a metabolic pattern which should apply to endogenous estrogens as well. However helpful exogenous hormone studies may be in anticipating the nature of endogenous hormone metabolism, they still do not answer the question of how much hormone the organism itself produces and what constitutes a normal hormonal environment for the whole organism. Knowledge of endogenous hormone levels is necessary if these questions are to be answered.

The fact that 17,000 liters of urine from normal men were required for successful isolation of estrone from this source shows that the technical requirements for chemical estimation of the endogenous estrogens in individual urine specimens are formidable. Progress along this line is being made, however, as more sensitive physical tools become available.

By improved physicochemical procedure which utilizes both chromatographic and chemical fractionation of the estrogens,[24] some information on endogenous estrogen levels in man has been obtained. The observations in this respect may be summarized as follows: Prepubertal boys and girls excrete 0 to 5 micrograms of estrone, estradiol and estriol per day. Women menstruating normally excrete 50 to 100 micrograms per day at the peak of the menstrual cycle. In postmenopausal women, and in men of similar age group, most of the estrogen is excreted as the weakly estrogenic compound, estriol, in amounts ranging from 10 to 40 micrograms per day. Male homosexuals who were studied did not show any elevation or alteration from the normal in the estrogen excretion patterns. On the other hand, in a case reported by Landau and coworkers,[8] a man with a feminizing tumor of the adrenal gland had pronounced elevation of the estrogen-androgen ratio, but there was no evidence of homosexual behavior.[13] Observations in experimental animals suggested that elevation of the estrogen-androgen ratio was the cause of benign prostatic hypertrophy. However, observations by Dingemanse and Laqueur of humans with the condition did not support this hypothesis.[6] In a series of cases of benign prostatic hypertrophy observed by the authors, no such elevation of the estrogen-androgen ratio could be demonstrated.

While definite progress has been made in the measurement of estrogen levels in men and women, these measurements have so far been confined to fluids excreted from the body. Although no kidney "threshold" for the hormones similar to the threshold found for blood sugar seems to exist, the value of direct blood estrogen determination cannot be overlooked. Unfortunately the low level of circulating estrogens in the blood precludes quantitative estimation of them by techniques now available. However, more sensitive methods of estrogen estimation are being developed in the hope that eventually it will be possible to determine the amounts of these hormones in the blood. The adequacy of the estrogenic titers of the excreta in reflecting the true hormonal environment in the blood has not yet been established. Nevertheless, the advantage of direct blood estrogen determination must be emphasized.

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REFERENCES

1. Beall, D.: Isolation of estrone from adrenal gland, Nature, London, 144:76, July 8, 1939.

2. Beall, D.: Isolation of α-estradiol and estrone from horse testes, Biochem. J., 34:1293, Sept. 1940.

3. Bocklage, B. C., et al.: Excretion of radioactive 17-methylestradiol, Fed. Proc., 10:164, March 1951.

4. Cantarow, A., et al.: Excretion of estrogen in the bile, Endocrinology, 31:515, 1942; and 32:368, April 1943.

5. Dingemanse, S., Laqueur, E., and Mühlbock, O.: Chemical identification of estrone in human male urine, Nature, London (supp.), 141:927, May 21, 1938.

6. Dingemanse, E., and Laqueur, E.: The content of male and female hormone in the urine of patients with prostatic hypertrophy, J. Urol., 44:530, Oct. 1940.

7. Fieser, L. F., and Fieser, M.: Natural Products Related to Phenanthrene, Reinhold Publishing Company, New York, 1949, p. 329.

8. Gallagher, T. F., Fukushima, D. K., Barry, M. C., and Dobriner, K.: Studies with isotopic steroid hormones, in Recent Progress in Hormone Research, Gregory Pincus, Editor, Academic Press, Inc., New York, 1951, p. 131.

9. Glass, S. J., Edmondson, H. A., and Soll, S. N.: Excretion of estrogens after injection of estradiol and estrone into men with cirrhosis of liver, J. Clin. Endocrinol., 4:54, Feb. 1944.

10. Goldzieher, J. W., and Roberts, I. S.: Identification of steroids in the human testis, J. Clin. Endocrinol. and Metab., 11:764, July 1951.

11. Heard, R. D. H., and Hoffman, M. M.: The fate in man of injected α-estradiol, J. Biol. Chem., 141:329, Nov. 1941.

12. Huggins, C., and Hodges, C. V.: Studies on prostatic cancer; effect of castration, of estrogen and of androgen injection on serum phosphatases in metastatic cancer of the prostate, Cancer Research, 1:293, April 1941.

13. Landau, R. L., Clark, D. E., and Stimmel, B. F.: Gynecomastia and retarded sexual development resulting from a long-standing estrogen-secreting adrenal tumor, J. Clin. Endocrinol. and Metab., 12:915, July 1952.

14. Lehninger, A. L., and Scott, W. W.: The action of human prostate slices on α-estradiol and estrone, Endocrinology, 40:9, Jan. 1947.

15. Levin, L.: The isolation of α-estradiol from the urine of stallions, J. Biol. Chem., 158:725, May 1945.

16. Lloyd, C. W., and Williams, R. H.: Endocrine changes associated with Laennec's cirrhosis of the liver, Am. J. Med., 4:315, March 1948.

17. MacCorquodale, D. W., Thayer, S. A., and Doisy, E. A.: Isolation of principal estrogenic substance of liquor folliculi, J. Biol. Chem., 115:435, Sept. 1936.

18. Maddock, W. O., and Nelson, W. O.: Increased estrogen excretion due to stimulation of Leydig cells in adult men receiving chorionic gonadotropin, J. Clin. Endocrinol. and Metab., 11:769, July 1951.

19. Mason, H. L., and Kepler, E. J.: Isolation of steroids from urine of patients with adrenal cortical tumors and adrenal cortical hyperplasia; new 17-ketosteroid, androstane-3(a), 11-diol-17-one, J. Biol. Chem., 161:235, Nov. 1945.

20. May, J. A., and Stimmel, B. F.: Do patients with cancer of the prostate gland show abnormal metabolism of therapeutic doses of the natural estrogens? J. Urol., 59:396, March 1948.

21. Pearlman, W. H., and Pincus, G.: Metabolism of estrone in men, J. Biol. Chem., 147:379, Feb. 1943.

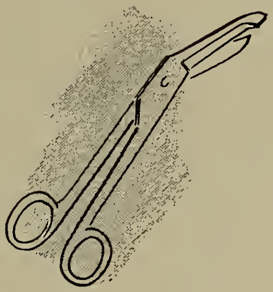
22. Stimmel, B. F.: The metabolism of therapeutic doses (1-2 mg.) of the natural estrogens in human subjects, J. Clin. Endocrinol. and Metab., 7:364, May 1947.

23. Stimmel, B. F.: Simultaneous biliary and urinary exogenous estrogen excretion studies in man, Fed. Proc., 10: 255, March 1951.

24. Stimmel, B. F.: Further studies on fractionation and photometric estimation of urinary estrogens, Fed. Proc., 9: 235, 1950.

25. Szego, C. M., and Samuels, L. T.: The metabolism of estrone in surviving rabbit, bovine, and human endometrium, J. Biol. Chem., 151:599, Dec. 1943.

26. Zondek, B.: Über das Schicksal des Follikelhormons (Follikulin) im Organismus, Skandinav. Arch. f. Physiol., 70:133, 1934.



A Therapeutic Regimen for Tuberculous Meningitis

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• *The results of treatment of tuberculous meningitis in Highland Alameda County Hospital, since the advent of streptomycin, in 34 cases were: dead, 21 patients, or 61 per cent; alive, 10 patients, or 29 per cent. Three cases were excluded from the ultimate report due to inadequate follow-up. The mean survival time of the ten survivors at the time of report was 35 months, the longest being 74 months.*

The composite results of treatment elsewhere, as reported in the literature, have been: dead, 892, or 59 per cent; alive, 629, or 41 per cent.

The pathogenesis of the disease and the effects of chemotherapy are discussed.

A therapeutic regimen for tuberculous meningitis is presented, which has been used at Highland Hospital since INH became established as the most effective component in the combined chemotherapeutic attack on the disease.

THE EXPERIENCE all over the world is that tuberculous meningitis has changed in just a very few years from a disease that was universally fatal to one that, with adequate treatment, can sometimes be cured.

Between January 1945 and August 1947 there were 24 patients with tuberculous meningitis admitted to Highland Alameda County Hospital. All died. From August 1947 to January 1950, there were 32 patients admitted with the disease. Eighteen of them died and 14 were discharged alive. This was the beginning of the streptomycin era.

The present study was made to review experience with the disease at Highland Hospital and to compare results with those reported elsewhere. From it came alterations in the regimen used at the hospital for the management of patients with the disease. This communication is: (1) a review of our experience; (2) a review of the experience of others; (3) an exposition of our understanding of the pathogenesis of the disease and the effects of drugs upon it; and (4) a presentation of our new treatment regimen.

Experience at Highland Hospital

Thirty-four cases, diagnosed from October 11, 1947, to December 18, 1952, are included in this series:

The various drugs used were as follows:

1. Streptomycin (SM) or dihydrostreptomycin (DHSM), intramuscularly (a) 1.0 to 2.0 gm. daily during the early and acute phases; (b) 1.0 gm. every other day, every third day, or twice weekly during the later chronic phases; (c) in a few cases, as little as 0.5 gm.—this dose only to children or infants less than three years old.
2. Streptomycin, 15 to 50 mg. intraspinally, daily to twice weekly.
3. Para-aminosalicylic acid (PAS), or its sodium salt, to tolerance, daily (after it became available here in May 1949). In very small children, this sometimes amounted to as little as 3.0 to 4.5 gm.; in all others, 12 gm. daily. In the past two and a half years it has been given by tube when necessary. Only two patients received PAS parenterally—30 gm. daily.
4. Isonicotinic acid hydrazide (INH) was given to only two patients.
5. Corticotropin (ACTH) and cortisone were administered in two desperate cases on an experimental basis and under close observation by the Institute for Metabolic Research.

The results for the series—most of the patients were treated before the INH era—were as follows: 21, or 61 per cent, dead; 10, or 29 per cent, alive. (Three cases, 10 per cent, were discarded from the ultimate report on the series because of inadequate information and/or follow-up.)

All the living patients at the time of most recent examination had normal spinal fluid and clinically were well, except for unchanging residual damage in several. None had mental deterioration. Deafness was the commonest residual change. At the time of the report the follow-up of the surviving patients was from 13 to 74 months from the beginning of treatment, the average being 35 months.

The results in relation to the kinds of drug used in therapy were as follows:

Therapy	No. Patients	No. Survivors
Streptomycin alone	8	1
Streptomycin or dihydrostreptomycin, plus para-aminosalicylic acid	21	7
Streptomycin or dihydrostreptomycin, plus para-aminosalicylic acid plus isonicotinic acid hydrazide	2	2

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TABLE 1.—*Results in treatment in 1,521 cases of tuberculous meningitis*

Author	Date of Report	SM*		PAS*	INH*	Promizole	Results	
		Intra-muscular	Intra-spinal				Alive	Dead
Bunn[3]	1950	Yes	Yes	----	----	----	10	71
Lincoln and Kirmse[9]	1950	Yes	Yes	----	----	Yes	16	5
Brainerd and Eagle[2]	1950	Yes	Yes	----	----	----	6	21
Debré[4]	1952	Yes	Yes	Yes	----	----	127	135
Ravreby, et al.[13]	1952	Yes	Yes	Yes	----	----	30	10
Ruziezka[16]	1952	Yes	Yes	----	----	----	60	54
Riley[14]	1953	Yes	Yes	Yes	Yes	Yes	4	53
USPHS[21]	1953	Yes	Yes	Yes	----	----	38	54
Silverstolpe[17]	1953	Yes	Yes	----	----	----	11	9
Kendig, et al.[8]	1953	Yes	Yes	Yes	----	Yes	18	22
Smith[19]	1953	Yes	Yes	----	----	----	6	78†
Lorber[10]	1954	Yes	Yes	----	----	----	247	302
Spies, et al.[20]	1954	Yes	Yes	Yes	Yes	----	19	68
Fitzpatrick[6]	1954	Yes	Yes	Yes	Yes	----	37	10
Totals							629 (41%)	892 (59%)

*Abbreviations: SM = streptomycin; PAS = Para-aminosalicylic acid; INH = isonicotinic acid hydrazide.
†Five-year follow-up.

About half the deaths occurred in patients three years of age or less. However, five of the ten survivors were also of this age group.

The severity of the spinal fluid alterations could not be correlated with survival. It was not a good prognostic guide in this series.

Experience of Others

The results of treatment elsewhere in this country, in England and in Europe are summarized in Table 1, which shows that about the best that can be hoped for at present is to approach a survival rate of 50 per cent with SM and PAS.

Pathogenesis and Effects of Drugs

How do tubercle bacilli get to the meninges? In children, this probably occurs following hematogenous spread before there has been a chance for encapsulation to occur in the primary focus.[1] In adults, tuberculous meningitis occurs in conjunction with miliary or extrapulmonary tuberculosis. It is probable that the tubercles are directly adjacent to the meninges and that meningitis occurs from subsequent seeding of bacilli.[1] The bacilli remain in the meningeal lesions, and do not characteristically occur in large numbers in the cerebrospinal fluid.[5] The pathological features of the disease have been studied and described by Winter[23] in a definitive article, and most observers[1, 12, 18] agree with his description. In untreated cases there is a loose serofibrinous mesh in the subarachnoid space. Histologically a feature is the presence of lymphocytes, neutrophils and histiocytes. In the meninges and the nervous tissue itself there is perivascular necrosis about the small arteries in the early stages. Later, the adventitia becomes involved in fibroblastic proliferation and chronic inflammation develops. Subendothelially, there is edema and cellular infiltration, leading to stenosis of the small arteries, and these reactions progress to form fibrinoid masses. Phlebitis also occurs.

In chronic cases, there are fibrosis and caseous foci. Dense meningeal adhesions occur. Tubercles are found near the small arteries and proliferative intimal fibrosis is characteristic. Ischemic softening of the nervous substance does not usually occur in untreated cases, probably because death quickly intervenes.

The differences in the pathological features in cases treated with streptomycin may be mainly due to the prolonged course of the disease, which permits healing and more chronic lesions to appear.[18] These changes are most definitively described by Winter,[23] but are concurred in by most investigators.[1, 12, 16, 18] The exudate in the subarachnoid space undergoes organization, with early dissolution of fibrin, and replacement by actively proliferating fibroblasts and chronic inflammatory cells. Foci of necrosis in the meninges are encapsulated or partially infiltrated by fibroblasts. The lesion that has attracted the most attention is acute tuberculous arteritis, especially in the circle of Willis and the proximal branches of the middle cerebral artery, which is rapidly transformed into a proliferative reaction, causing severe stenosis or even occlusion. This results in "multiple ischemic softenings," especially in the basal ganglia and internal capsule. These softenings are perhaps the most characteristic lesions in the streptomycin-treated cases. Tuberculous ependymitis may resolve, with formation of small subependymal tubercles and gliosis. The outstanding complications in the treated disease are communicating hydrocephalus and multiple ischemic softenings. These are serious lesions, and Winter expressed belief they probably do not occur in patients who recover. This is borne out by Ruziezka's[16] observation that patients with severe residual changes eventually died. In cases in which residual effects were milder, progressive improvement was noted.

The addition of INH to the therapeutic agents makes even more striking differences in the pathological changes. Ritchie and co-workers[15] observed very pronounced and rapid resolution of tuberculous lesions and inflammatory tissue after the use of INH. The success achieved with INH lies in its great diffusibility into all tuberculous tissues, and the advantage this gives it over streptomycin is obvious. The prognosis of tuberculous meningitis diagnosed early and treated with SM, PAS and INH is now very good.

A Therapeutic Regimen

While results at Highland Hospital with SM and PAS were infinitely better than once they were, it was felt that they could be improved, and brief experience in a recent six-month period with a new regimen incorporating INH has completely justified the change. The results now seem to be in line with the experience elsewhere. In one recent report[22] the survival rate at the end of 18 months was 81 per cent. The regimen now used at Highland Hospital is as follows:

PHASE I. To be continued daily during the *acute illness* as indicated by fever, CNS and mental signs of active disease; cerebrospinal fluid pleocytosis, sugar content below 45 mg. per 100 cc. and chloride below 110 mEq. per liter.

1. Age 12 and above: SM 1.0 gm. and DHSM 1.0 gm. alternated every 12 hours, intramuscularly; below age 12, one-half the foregoing dose.

2. PAS orally to tolerance: age 12 and above, at least 12 gm.; ages 3 to 12, at least 6 gm.; below age 3, at least 4 gm.

If these doses are not tolerated, PAS should be given in intravenous infusion lasting four hours, in the following amounts: age 12 and above, 15 gm. twice daily; below age 12, 7.5 gm. twice daily.

3. INH orally (daily in three divided doses): age 12 and above, 300 mg.; ages 3 to 12, 150 mg.; below age 3, 100 mg.

4. Weekly examination of spinal fluid.

PHASE II. For three months after acute signs have subsided, the only changes should be:

1. SM or DHSM, 1.0 gm. intramuscularly, twice weekly.

2. Monthly examination of spinal fluid. (PAS, INH and bed rest continued unchanged.

PHASE III. During convalescence.

1. Continue biweekly SM or DHSM, daily PAS and INH, to total of 18 months.

2. Allow patient to get out of bed on gradual schedule to full-time activity.

3. When out of hospital, monthly examinations.

PHASE IV. Examinations every two to twelve months indefinitely.

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REFERENCES

1. Auerbach, O.: Tuberculous meningitis: correlation of therapeutic results with the pathogenesis and pathologic changes, I. General considerations and pathogenesis, Am. Rev. Tuberc., 64:408, Oct. 1951; II. Pathologic changes in untreated and treated cases, Am. Rev. Tuberc., 64:419, Oct. 1951.

2. Brainerd, H. D., and Eagle, H. R.: The effect of streptomycin on tuberculous meningitis, Ann. Int. Med., 33:397, Aug. 1950.

3. Bunn, P. A.: Two-year follow-up report of patients with miliary and meningeal tuberculosis treated with streptomycin, Am. J. M. Sc., 219:127, Feb. 1950.

4. Debré, R.: The prognosis of tuberculous meningitis, Am. Rev. Tuberc., 65:168, Feb. 1952.

5. Dubos, R. J.: Discussion on treatment of tuberculous meningitis, Am. Rev. Tuberc., 65:637, May 1952.

6. Fitzpatrick, M. J.: The treatment of tuberculous meningitis: a study of 46 adult patients, Am. Rev. Tuberc., 69:370, March 1954.

7. Jacobsen, S. M., and Greene, R. C.: Morphology of healed tuberculous meningitis following streptomycin therapy. Am. J. Med., 14:132, Jan. 1953.

8. Kendig, E. L., Owenby, R., Trevathan, G. L., and Sutton, L. E.: The treatment of tuberculous meningitis in children, J. Pediat., 43:532, Nov. 1953.

9. Lincoln, E. M., and Kirmse, T. W.: The diagnosis and treatment of tuberculous meningitis in children, Am. J. M. Sc., 219:382, 1950.

10. Lorber, J.: The results of treatment of 549 cases of tuberculous meningitis, Am. Rev. Tuberc., 69:13, Jan. 1954.

11. Netsky, M. G., Ritter, N. S., and Zimmerman, H. M.: The effect of streptomycin on tuberculous meningitis: a study of three cases at necropsy, Am. Rev. Tuberc., 62:586, Dec. 1950.

12. Perry, T. L.: Treatment of tuberculous meningitis in children, J. Pediat., 40:687, June 1952.

13. Ravreby, L., Caron, G. H., and Georgantas, V. A.: The antibiotic therapy of tuberculous meningitis, N.E.J.M., 246:883, June 5, 1952.

14. Riley, E. A.: Tuberculous meningitis in the adult: a review of 60 consecutive streptomycin treated cases, Am. Rev. Tuberc., 67:613, May 1953.

15. Ritchie, G. M., Taylor, R. M., and Dick, J. C.: The effect of streptomycin and INH on miliary tuberculosis and tuberculous meningitis, Lancet, 265:419, Aug. 29, 1953.

16. Ruziezka, O.: Tuberculous meningitis, J. Pediat., 40:708, June 1952.

17. Silverstolpe, L.: Treatment of tuberculous meningitis, J.A.M.A., Foreign Letters, 153:507, Oct. 3, 1953.

18. Silverthorne, M. C., and Silverman, G.: The effect of streptomycin on the morphology of the tuberculous lesion, Am. Rev. Tuberc., 61:525, April 1950.

19. Smith, K. M.: Five-year follow-up of 100 cases of miliary and meningeal tuberculosis treated with streptomycin, Am. J. M. Sc., 225:657, 1953.

20. Spies, H. W., Lepper, M. H., Blatt, N. H., and Dowling, H. F.: Tuberculous meningitis: treatment with streptomycin, para-aminosalicylic acid and promizole, Am. Rev. Tuberc., 69:192, Feb. 1954.

21. United States Public Health Service Cooperative Investigation: The effect of streptomycin on the emergence of bacterial resistance to isoniazid, Am. Rev. Tuberc., 67:553, May 1953.

22. Veterans Administration-Army-Navy Conference (Thirteenth) on the chemotherapy of tuberculosis, St. Louis, Mo., Feb. 8-11, 1954.

23. Winter, W. J.: The effect of streptomycin upon pathology of tuberculous meningitis, Am. Rev. Tuberc., 61:171, Feb. 1950.

Trichlorethylene Analgesia

Use for Urologic Procedures in the Office

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• *Trichlorethylene inhalation for analgesia was used in 391 cases in which urologic procedures were carried out in the office. In the great majority of cases the patients had no significant pain or had only minor discomfort. Results were considered poor in less than 10 per cent of cases.*

ALTHOUGH RELAXED, unapprehensive persons usually do not have a great deal of pain or distress when urethral or ureteral instrumentation is carried out with only local anesthesia or, occasionally, narcotic premedication, a procedure of this kind may be a physical and psychic ordeal for a patient who is anxious or emotional. Moreover, if considerable force has to be put upon instruments in order to overcome the resistance of tense musculature, the after-pain may be greater than it would be otherwise.

For this reason there is a tendency to put tense, apprehensive patients in the hospital for such instrumentation and to give Pentothal® or saddle block anesthesia, which of course adds considerably to the cost of what is often at most only a diagnostic procedure.

In light of these considerations, after Stephen[1] reported favorably in 1952 on the use of trichlorethylene by inhalation for analgesia in urologic instrumentation, the author began using the method—at first in hospital and then for treatments and diagnostic procedures in the office.

In a period of 14 months Trilene® was given by inhalation to 314 patients in whom 391 urologic procedures of various kinds were carried out in the office. Eight of the patients were children and five patients were more than 80 years of age. The age range was from 5 to 85 years. There was no selection of patients on the basis of cardiac or other reasons, except that the drug was not used for a few obviously debilitated patients.

Premedication was used whenever apprehensiveness or a more than ordinarily painful procedure was anticipated. For the most part morphine and Demerol® were used for this purpose, occasionally with the addition of atropine, although later atropine was found to be unnecessary and was discontinued. Local anesthesia was also used regularly in the first few weeks of the present series, but later only for an occasional repeated dilatation of severe urethral stricture and in other procedures in which it was found that Trilene did not give sufficient analgesia.

METHOD OF ADMINISTRATION

The Duke Trilene Inhaler was used in every case. It was found best to give the patient two to three and sometimes five minutes of Trilene inhalation before any instrumentation was begun. The most reliable indication of beginning analgesia was a feeling of tingling in the extremities. The patient was asked to say when the tingling began, and instrumentation was started as soon as it was felt. Most patients tolerated full strength of the Trilene Inhaler after two or three breaths with a setting of somewhere between minimal and half way. Ordinarily the inhaler was set at maximum as soon as that amount could be tolerated. Inhalation was begun at about the time the patient was draped and usually analgesia was quite effective by the time the operating table was adjusted and the instruments were ready for introduction.

RESULTS

Results were as follows:

	Number of Cases
Adults:	
Excellent (no significant pain)	242
Good (relief with minor discomfort)	98
Poor (slight or no analgesia and/or no cooperation)	37
No remark	6
Children:	
Excellent	6
Good	2

INCIDENTAL OBSERVATIONS

There were a number of side effects that bear mention (Table 1).

Nausea, which sometimes occurred with repeated administration of Trilene (and in a few cases at the very beginning of analgesia) was prevented by giv-

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Presented before the Section on Urology at the 83rd Annual Session of the California Medical Association, Los Angeles, May 9-13, 1954.

TABLE 1.—*Side effects noted in association with administration of Trilene for analgesia*

	No. Cases
Nausea	5
Auditory hallucinations	5
Visual hallucinations	1
Agitation with hallucinations	1
Tactile hallucinations	1
Agitation	3
Hilarity	1
Screamed (but felt no pain)	3
Mild tachycardia (subjective and objective)	2
Weeping	1

ing 50 mg. of Dramamine® intramuscularly some 15 or 20 minutes before inhalation of Trilene was begun.

Agitation, moaning and groaning were noted quite frequently, but this did not necessarily mean that the drug was not taking effect, for most of the patients in whom these phenomena were observed said later that they felt little or no pain and that they did not remember making any commotion during the procedure.

Two patients had facial nerve tingling the evening following the use of Trilene, but the sensation had disappeared by the following morning. (This phenomenon recalls a passing mention, in medical school days, of trichlorethylene as a "specific" for the pain of trigeminal neuralgia.)

Occasionally in the present series large male chronic alcoholics became quite wild and pugnacious after four or five minutes of Trilene inhalation.

Unless patients who are given Trilene have someone to escort them from the office after the procedure is finished, particularly if they are to leave by automobile, they should wait 15 or 20 minutes for the effect of the drug to wear off. During the last month of the period here reported upon, ambulatory patients who had had premedication with morphine or Demerol were given Nalline® just before they left the office, which seemed to neutralize the effect of the narcotics. These patients were detained in the waiting room for some 15 to 20 minutes after the administration of Nalline.

It was not until the last three or four months of the period covered by the present series that Trilene was used for children. Cooperation was never obtained and the face mask had to be held in place until the child had taken 10 or 12 breaths. Use of a small mask was helpful. Usually the analgesia plus the distraction of the mask permitted successful manipulation. Advising children to "blow it out" was quite helpful. Most of the children were completely free of the effects of the drug within a minute or two after completion of the procedure.

The analgesia of Trilene was not relied upon to justify excessively painful procedures, and manipulation was always done gently in order to prevent undue pain after the analgesic effect wore off. Ordinarily the smallest instruments that would serve were used. No. 5 catheters were used routinely for ureteral catheterization unless dilatation was to be done. In cases in which instrumentation was prolonged, anesthetic oil was instilled into the bladder upon completion of the procedure.

As the waxolene blue dye used to identify Trilene is extremely hard to remove from fabrics, it is well to have patients remove at least their outer clothing and put on a washable gown lest a dribbling inhaler cause costly stains. (An inhaler of a new type, Model M, is reported to overcome this difficulty.)

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REFERENCE

1. Stephen, D. R.: Proceedings of the Los Angeles Urological Postgraduate Convention, Nov. 20, 1952.

Rheumatoid Arthritis

Diagnosis in Peripheral Joint Affliction

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• *The diagnosis of rheumatoid arthritis in a typical case depends upon a history of pain and swelling of various joints throughout the body. In the first stages the disease usually involves only the small joints of the hands and feet, but sooner or later it spreads to the larger joints. This may be accompanied by fibrosis of one or more joints, causing disability ranging from disuse of one joint up to total incapacity. Diagnosis in early or atypical cases is often impossible until the patient has been under observation a long time. It is important that diagnosis be made as early as possible, in order that appropriate therapy may be started and ankylosis and disability of the joints prevented.*

Since laboratory procedures and roentgen films do not show early changes, emphasis is placed on the history and physical examination for diagnosis.

IN VARIOUS PUBLICATIONS in recent years emphasis has been placed upon arthritis as first among the chronic disabling diseases. Concomitantly there has been a steadily increasing interest in many quarters in various aspects of this illness. This concern is reflected in reports from industry, wherein invalidism from this condition has resulted in considerable absenteeism, by the formation in various communities of more and more chapters of the Arthritis and Rheumatism Foundation by altruistically minded citizens, by the development of arthritis clinics in an endeavor to aid the sufferers, by the formation of research units in many medical centers and above all by the introduction of new drugs. Rheumatoid arthritis, which comprises a large percentage of the rheumatic diseases, has been a challenge to investigators and has stimulated considerable research. All these developments constitute a forward-moving program which offers hope of relief to arthritic patients.

Rheumatoid arthritis is described as a generalized disease of unknown cause. The onset is variable, the illness is characterized by remissions and exacerbations, and it is impossible to predict what course the disease may take in individual patients.[1, 2] Diagnosis is often difficult in early cases. It is important that a physician have a definite plan of procedure and method of examination when confronted by patients who presumably have rheumatoid arthritis.

Some clinical grouping of patients with rheumatoid arthritis is necessary in order to determine their physical status and degree of disability. Patients may be separated into the following five categories:[3]

1. (a) Bedridden and disabled to a lesser or greater degree because of ankylosing processes in various joints. (b) Bedridden and joints mobile, but restricted in activity by acute inflammatory reaction in the joints and associated muscle spasm.

2. Ambulatory, but deformities present and accompanied by pain indicative of active and possibly progressive disease.

3. Ambulatory, with deformities present but with little or no pain; active process has subsided.

4. Ambulatory; swelling present in small *peripheral* joints; little or no disability.

5. Vague aches and pains in joints, but no accompanying disability or swelling.

Before therapy can be outlined for any given patient, it is important for the physician to classify the patient's illness by means of thorough examination. The basic procedures in our clinic are the following:

The anamesis. A detailed history is taken, with special attention to familial predisposition to the rheumatoid diseases, dietary abnormalities with emphasis on possible deficiency in vitamin C, exposure to extreme or sudden changes in temperature and humidity, recurring attacks of "low-grade infections" and repeated trauma to joint tissues. It is important to determine the mode of onset of the illness, the presence or absence of pain, swelling, redness, fever, and disability, and the progression of symptoms from one joint to another and the duration of these symptoms.

Physical examination. A thorough physical examination is made, and organic abnormalities are recorded, as well as the state of nutrition of the patient. Observation of the characteristic changes of the joints and the degree of disability of the joints

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is then begun. An inventory of the skeletal system begins with inspection of the hands. The presence or absence of subcutaneous nodules is recorded; obvious swelling of the interphalangeal, metacarpophalangeal and small joints of the wrists is noted; any apparent ulnar deviation of the fingers, subluxation of one joint upon another, flexor contractions and other possible deformities are catalogued. The patient is then asked "to make a fist" to determine whether or not he can completely close the fingers, then to volar-flex and dorsi-flex the hand upon the wrist. The degree of sensitivity of the inflamed tissues is then tested by grasping one of the patient's interphalangeal or metacarpophalangeal joints between the thumb and index finger and exerting slight to moderate pressure. This is a most important and delicate test to employ in the examination of patients with early rheumatoid arthritis, since the eliciting of pain may be considered a presumptive sign of an early inflammatory process.

The hands as well as the feet of patients with rheumatoid arthritis are cold and clammy. The increased sweat and tendency to Raynaud's phenomenon which often are manifest in this disease give evidence of deranged activity of the autonomic nervous system. The skin of the fingers may be smooth, glossy and atrophic. At times it is thickened so much that it closely simulates the skin in scleroderma.

The examination then proceeds to the elbow and, as with all the joints, a notation is made of evidence of atrophy of muscles, the degree of contractures or failure of complete extension and the degree of internal and external rotation. In examining the shoulders and hips, additional information is sought as to restriction of activity in the planes of adduction and abduction. It is to be emphasized that the temperomandibular joints may become involved, which handicaps the ability of the patients to chew. The sternoclavicular joint should be carefully examined and palpated for tenderness, for on occasion it may be the first or only joint afflicted. In a similar manner the knees, ankles and feet are scrutinized.

Although the subject matter of this paper is limited to a discussion of peripheral joints, it should be stressed that an examination of the skeletal system is not complete unless the entire spine is explored. To allow proper inspection and detection of points of tenderness and mechanical derangements of the vertebrae, the patient should disrobe completely and, unless incapacitated, should stand upon the floor. The patient should be supplied with a suitable drape which will not interfere with thorough examination of the spine. Early spondylitis of the lumbosacral spine may go undetected in a patient who, because of delicacy, has not removed her girdle or underclothing.

Subcutaneous nodules occur in about 15 to 20 per cent of patients. The size varies from 3 or 4 mm. to 1 cm. They are most often found in the regions of the elbows, especially over the ulna just distal to the olecranon process, but also appear frequently over the dorsal surfaces of the proximal phalangeal and metacarpophalangeal joints of the hands and less frequently on other bony prominences. While not painful, these nodules are unsightly and interfere with function of the joint.

Enlargement of the spleen occurs in about 5 per cent of patients. Generalized enlargement of the lymph nodes of moderate degree is commonly observed. Felty in 1924 reported on a series of patients who, in addition to rheumatoid arthritis, had leukopenia, splenomegaly and generalized lymphadenopathy. This group of clinical manifestations is usually referred to as Felty's syndrome.

Laboratory tests. The diagnosis of rheumatoid arthritis must be established from the findings in the history and from physical examination. There is no single laboratory test that in itself is diagnostic. However, certain tests provide helpful information. For instance, the rate of sedimentation of erythrocytes is usually rapid and may serve, within limitations, as an index of the acuteness of the process. Thus, the sedimentation rate is of value in following the course of the disease and measuring the effectiveness of treatment. Complete count of blood cells should be done, for frequently hypochromic microcytic anemia is found. The number of leukocytes is usually normal; a low content of leukocytes suggests the presence of Felty's syndrome. Blood serum agglutination of group A hemolytic streptococci is found in a considerable number of patients with rheumatoid arthritis. The ascorbic acid content of the plasma is low in 95 per cent of patients.

It is well to bear in mind that occasionally rheumatoid arthritis is associated with gout. Elevation of serum uric acid above 6.0 mg. per 100 cc. is consistent with a diagnosis of gouty arthritis.

Roentgenologic observations. The appearance of the structural changes in the roentgen films varies greatly according to the stage and duration of the arthritic process. Early in the course of illness no abnormalities are visible, but gradually characteristic changes take place. Intracapsular effusion and periarticular swelling are first to appear; later the bones adjacent to the involved joints show decalcification. There may be narrowing of joint spaces.

As the disease progresses, cartilage is destroyed and small areas of erosion appear in the cortex of the bone. These small regions of localized destruction, often referred to as "punched-out areas," are a prominent feature of rheumatoid arthritis, as well as of gout. In advanced cases the articular surfaces may become fused together through fibrosis of the pannus, with bony ankylosis developing ultimately. Frequently there are subluxations and overriding of one joint upon another, with or without destruction of the cartilage of the joints. Some degree of bone production, lipping and osteophyte formation may be secondary to the arthritic process.

CASE REPORTS

The many variations in the onset and course of rheumatoid arthritis can best be illustrated by the presentation of case histories. A case of pronounced severity will be described first.

CASE 1. A white male business executive, aged 42, was admitted to the University of California Hospital, October 15, 1934, complaining of pronounced disability of all peripheral joints. During his youth he had enjoyed good health, with the exception of minor illnesses. He had been athletically inclined and had achieved fame as a basketball player. Early in 1924 he became aware of pain and swelling in the left ankle which, however, did not incapacitate him. These symptoms subsided in a few days, but two weeks later the right ankle became swollen, painful and tender. Subsequently the right knee, the second and third metacarpophalangeal and proximal phalangeal joints of both hands, the wrists and the jaws were similarly affected. During the ensuing year all the peripheral joints became involved in the process until finally pain and disability confined the patient to bed. During the period he was bedridden, he stated that one joint after another became so rigid that he was unable to feed himself or care for personal hygiene. The constant attendance of a nurse or member of his family was required to care for his bodily needs. For several years before admission to the hospital he had been under the care of several physicians. Treatment had consisted largely in administration of pain-relieving medicaments and injection of vaccines. The patient had had no physical therapy.

Upon examination at the time of admittance it was noted that the patient was undernourished, incapacitated and pathetic in appearance. A survey of the skeletal system showed limitation of jaw motion and slight stiffness of the neck. There was swelling and tenderness of all metacarpophalangeal and proximal phalangeal joints accompanied by ulnar deviation of such degree that the patient was unable to grasp an object. The wrists were swollen. Stiffness of the elbows limited extension of the forearms to 160 degrees. The hips and knees were immobile; the ankles and the small joints of the feet were similarly involved. Both feet were turned outward about 30 degrees.

Results of laboratory tests were within the limits of normal, with the exception of a corrected erythrocyte sedimentation rate of 30 millimeters in one hour (Wintrobe). X-ray films showed atrophy of the bones adjacent to the involved joints, narrowing of the joint spaces and ankylosis of the hips and knees.

Treatment consisted of application of heat to the various joints and physical therapy directed at improving the tone of the many atrophied muscles. Both knees were operated upon in an attempt to free the fibrotic process and restore some degree of function. This procedure helped little. Two months after entering the hospital the patient, who had sufficient pecuniary means to care for his needs, was discharged to his home. With the aid of a nurse and a chauffeur he could be transported from one place to another in a specially constructed wheelchair that almost served as a bed and could be placed in an automobile from which half of the front seat had been removed.

The patient existed in this manner until 1950, when, at the age of 50, he died of lobar pneumonia.

This case illustrates many of the features characteristic of rheumatoid arthritis except that the disease progressed to an extreme degree of disability. At the onset symptoms were mild in degree; but they disappeared and recurred over a period of approximately one year. At the end of that time, persistent and permanent changes took place. This case also illustrates the dangers of a procedure which is used only too often and to the great disadvantage of the patient: Frequently patients with rheumatoid arthritis are confined to bed and given analgesics to relieve their pain without thought on the part of the physician of the degree of joint disability that may ensue. As the patient lies in bed, the joints gradually stiffen and eventually become ankylosed, as a result of the inherent proliferative character of the pathologic process. Finally, he is unable to use his hands, he cannot bend the elbows or knees, and proper function of the feet is lost because the weight of the blankets has caused them to be turned outward and fixed in that position.

The following case is typical of rheumatoid arthritis of moderate severity.

CASE 2. A 60-year-old housewife was admitted to the hospital January 15, 1950, complaining of pain in various joints of four months' duration. About six months previously she noted increasing fatigability and the need to lie down for a rest during the afternoon. Her appetite diminished and she began to lose weight. Approximately two months after the onset of symptoms she awakened earlier than usual one morning because of pain in the right first metacarpophalangeal joint. It was swollen and red. During the ensuing four months the disease gradually spread to many joints throughout the body. Although she had considerable pain, the patient remained ambulatory and continued doing her housework.

Upon admission the patient was observed to be undernourished and to have a wrinkled face that frequently expressed twinges of pain. Evidence of arteriosclerosis of moderate degree was seen in the vessels of the ocular fundi. Upon examination of the skeletal system, swelling and tenderness of the first, second and third metacarpophalangeal and proximal phalangeal joints of both hands were noted. Both wrists were swollen and tender. The range of motion of the elbows, shoulders and hips was normal. Both knees were slightly swollen and painful, but normal range of motion was present. The ankles and the metatarsophalangeal joints of both big toes were slightly swollen and tender.

The erythrocyte content was 3,500,000 per cu. mm. of blood; the hemoglobin value 50 per cent (Sahli); the volume of packed red blood cells 31 per cent; and the corrected rate of sedimentation, 59 mm. in one hour (Wintrobe). The ascorbic acid content of the blood plasma was 0.3 per cent (normal 0.5 per cent).

Roentgen films showed pronounced demineralization of the bones of the hands and wrists. The joint spaces appeared narrow and poorly defined. There were small cystic destructive changes in the subarticular regions, most pronounced in the fourth and fifth proximal interphalangeal joints on the right side, and in both first metacarpophalangeal joints.

A transfusion of blood was given the patient on two occasions. Physical therapy, consisting of whirlpool baths to the hands and feet followed by massage and corrective exercises, became a daily program. Intramuscular injections of colloidal gold* in amounts of 50 mg. were administered at intervals of one week. An analgesive-sedative capsule containing 0.015 gm. phenobarbital, 0.2 gm. aspirin, 0.2 gm. phenacitin, and 0.03 gm. caffeine, was taken three times a day.

On this regimen of bed rest, adequate diet, exercise and medication, the patient improved. At the time of discharge on January 26, 1950, she had regained considerable use of her hands, although slight stiffness of the knees and ankles persisted.

The patient reported once a week for physical therapy and injections of gold. She remained ambulatory and was relatively free of pain until January 1951 when, within a period of one week, her son was sent to Korea to serve in the Armed Forces and her husband was confined to bed with coronary thrombosis. Both events caused considerable shock to the patient, and one month later she began to have increasing pain in the joints, especially in the ankles and the wrists. The sedimentation rate, which had fallen to 30 mm. in one hour, was now found to be 40 mm. (Wintrobe).

The symptoms persisted without much change until April, when coincident with bettering conditions at home, the general health of the patient began to improve. During the ensuing years she has continued her program of treatment, has been relatively free of symptoms and able to do her housework.

In this patient the symptoms and signs developed slowly during the early stage of the disease. Subsequently they became fulminant in character and widespread in distribution. The patient finally was confined to bed because of weakness, pain and undernutrition. With the aid of bed rest, transfusions for anemia, adequate diet, medication and appropriate physical therapy, the patient again became ambulatory in less than two weeks' time.

This case history illustrates the harmful effect of mental shock on patients with rheumatoid arthritis. After treatment was started the patient showed continuing improvement, but she had a relapse after the double shock of seeing her son sent to the Armed Forces in Korea and her husband critically ill with coronary thrombosis. After several months, incident to improvement in home conditions, the patient's disability lessened, and she then remained ambulatory.

In the early stage of rheumatoid arthritis the symptoms may be so protean that diagnosis is difficult. The illness may be diagnosed as psychoneurosis until the characteristic joint signs appear, as described in the following case.

Case 3. A 36-year-old housewife reported for examination March 19, 1941, with complaint of easy fatigability and transitory vague aching pains in various joints. She stated that she had enjoyed doing her household duties and various community projects until seven months previously, when such activities became difficult and she found an increasing need for more rest. Because of a slight irregularity in menses, she consulted a gynecologist and was found to have retroversion of the uterus and a small fibroma. The patient was then referred for a general physical examination.

She appeared slightly underweight, the brow was furrowed and the facial expression was one of anxiety. Other than the anomaly of the pelvis no other abnormality was discovered on physical or neurological examination. Results of blood cell counts and urine examinations were within normal limits but the sedimentation rate was 27 mm. (Wintrobe) in one hour. A diagnosis of psychoneurosis was made, and the patient underwent psychotherapy for several months.

Between July 28, 1941, and February 28, 1945, she was seen by several specialists. Because of postnasal drip she voluntarily visited a rhinolaryngologist who gave her "some treatments in an endeavor to shrink down the mucous membrane." A few months later the patient consulted an allergist who, following skin testing, gave her injections of vaccine. There were periods when she tended to be depressed and easily upset emotionally, and for this her family encouraged her to visit a psychiatrist. Although she subsequently regained some composure and equanimity, she continued to have symptoms and, seeking relief, she asked a dentist to extract her teeth and replace them with dentures. On February 28, 1945, she was again seen in our clinic. She stated that a few days before, in addition to slight pain, she became aware of some stiffness in the left wrist and elbow. She complained of her symptoms to the local druggist who "counter-prescribed" cinchopen. On examination no obvious swelling or redness of the joints was apparent, but slight tenderness of the left wrist was elicited on pressure. Enteric-coated tablets of sodium salicylate, 0.6 gm. three times daily, were prescribed.

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*Myochrysine: Solution gold sodium thiomalate (Merck & Co., Inc.).

For the next three months the patient continued to have stiffness and some pain in the wrists and knees, particularly on arising in the morning, which was relieved by warmth, aspirin and exercise. No associated swelling was apparent until May 16, 1945, when there was definite swelling of the interphalangeal joint of the right index finger and thumb, slight thickening and tenderness of both wrists and limitation of motion in both shoulders. The sedimentation rate was 48 mm. in one hour. A diagnosis of rheumatoid arthritis was made.

The patient was then treated with intramuscular injections of colloidal gold at intervals of one week, whirlpool baths for the hands and wrists, and infrared and massage to both shoulders. By July 1, 1945, she was able to conduct her household duties with comparative ease.

The difficulty of making a diagnosis of rheumatoid arthritis in the early stage of its development is demonstrated by this case history. Patients may consult many physicians during this period because of the varied symptoms, and a diagnosis of psychoneurosis may be made. In the foregoing case symptoms related to the joints were of slight degree for at least four years before swelling and disability of the joints became evident.

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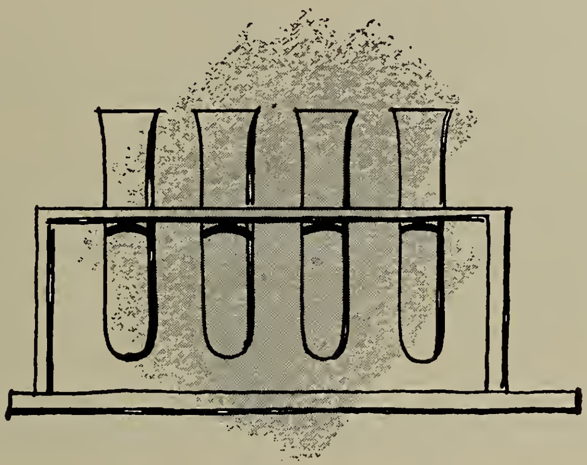
REFERENCES

1. Hench, P. S.: Chronic Arthritis, in Modern Medical Therapy in General Practice, D. P. Barr, Ed., Williams & Wilkins, Baltimore, 1940, 3:3298-3397.

2. Mettier, S. R.: Diseases of the Locomotor System, in Musser's Internal Medicine, Its Theory and Practice, M. G. Wohl, Ed., Lea & Febiger, Philadelphia, 1951. pp. 1327-1370.

3. Ragan, C.: The general management of rheumatoid arthritis, J.A.M.A., 141:124, 1949.



Referred Pain in Headache

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• *A technique consisting of the application of digital pressure to posterior neck muscles was applied at the time of headache to 82 neuropsychiatric patients observed at a Veterans Administration Mental Hygiene Clinic. Results indicated correlation between sustained muscular contraction of neck muscles and pain in the head. Certain commonalities among the Minnesota Multiphasic Personality Inventory profiles of the patients were noted and a new scale of items was developed which may prove useful in identifying headache-prone persons and their psychological characteristics. Repression was not found to be higher than the populational mean.*

NUMEROUS ARTICLES and books have presented the known facts about pain in the head. Wolff[5] and his collaborators especially have contributed to understanding of the mechanisms involved and have shown that certain tissues are pain-sensitive, especially the arteries, venous sinuses, parts of the dura, the fifth, ninth and tenth cranial nerves and the upper three cervical nerves. They have shown that pain may result from traction, distention and dilatation of arteries, from direct pressure, from traumatic lesions and from inflammation of cranial or extracranial structures. They observed also that

> Sustained contractions of the skeletal muscles of the head and neck have been demonstrated to be potential and common sources of sustained headache and other head sensations. Such sustained contractions may be secondary to noxious impulses arising from disease of any structure in the head. More common, however, are the sustained contractions associated with emotional tension, dissatisfaction, apprehension and anxiety, either independent of concomitant disease of cranial structures or coupled with such derangements. The sustained contraction of skeletal muscle of the head and neck constitutes a major cause of headache and other head sensations.

Experiments were carried out in Wolff's laboratory to determine the responses of head and neck muscles to pain induced in the head. It was found that brief general head pain induced by histamine did not maintain muscular contraction in the neck long enough to cause secondary symptoms in the head and neck. Repeated and sustained pain in the head (brought about by injection of 0.6 cc. of 6 per cent saline solution into the temporal muscle) gave rise to pronounced muscular contraction and pain in the neck. Continuous painful pressure on head and neck muscles (with a head-screw apparatus) gave rise to pain in the neck muscles and to sustained spasm of neck muscles with pain in the neck and occiput. Anxiety was found to be associated with contraction of the muscles of the scalp and of the neck. Migraine headache was found to be associated with contraction of neck and temporal muscles. Pain was eliminated in 15 minutes by ergotamine tartrate but the muscle contraction persisted.[1]

The opposite relationship was carefully studied by Campbell,[2] who reported that in 112 instances head pain was produced by injections of hypertonic saline solution or by mechanical irritation of "trigger spots" in the neck. This pain was then relieved at least temporarily in 14 patients by injections of procaine. The importance of the relationship between the lower trigeminal and the upper cervical sensory pathways was emphasized.

Stimulated by Campbell's study, the authors developed a simple technique that is useful in evaluating referred head pain. This consists in applying steady, *deep* pressure with the fingers at the time of headache, to the patient's posterior neck muscles for approximately three minutes. This was done in the cases of 82 veterans (79 men, 3 women—mostly World War II) who were observed consecutively at the Mental Hygiene Clinic, Veterans Administration Hospital, Oakland. Twenty-four patients had recurrent *pulsating* head pain localized mainly in the frontal or temporal areas (Pulsating Group). Fifty-eight patients experienced recurrent *steady dull pain* localized in the frontal, temporal or occipital areas associated with neck stiffness (Steady Group). Response to the technique is shown in Table 1. Ten patients reported that headache disappeared completely and 26 that it definitely diminished. Fourteen patients described a change in the location of

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Presented before the Section on Psychiatry and Neurology at the 83rd Annual Session of the California Medical Association, Los Angeles, May 9-13, 1954.

TABLE 1.—*Response to finger pressure technique for 82 patients with headache*

Result	Pulsating Headache	Steady Headache
Disappeared	4	6
Diminished	7	19
Changed location	5	9
Increased	5	14
No change	3	10
	24	58

the pain, from temples to vertex, for example, or frontal to temporal or vertex to frontal. Nineteen patients noted increased severity of pain and 13 reported no change.

The mechanism by which the digital pressure technique affects head pain is not known. To rule out suggestion as a possibility, pressure was applied to the biceps muscle as a control and there was no change in headache. Patients' responses to repeated maneuvers were, furthermore, consistent. One can feel the muscle spasm diminish between the thumb and fingers while applying pressure. Perhaps the deep pressure also introduces strong afferent impulses which interrupt the self re-exciting circuits in the spinal cord and brain stem that are thought to perpetuate the sustained muscular contraction.

PSYCHOLOGICAL STUDIES

Clinically and psychologically the patients studied were mostly psychoneurotic or psychosomatic. The Minnesota Multiphasic Personality Inventory[3] was done in 41 cases. The profile, with Hypochondriasis, Hysteria, Psychopathic Deviate and Depression scales in roughly descending order, was found to be typical in patients with headache as a monosymptomatic presenting complaint. In those instances where these generalizations did not hold, the Minnesota Multiphasic Personality Inventory profile revealed evidence of primary personality disorders ("character neurosis"), i.e., either the center of the profile showed the highest elevations or the entire profile was relatively flat. Configural analysis only permits separation of patients with headache from suitable nonpsychosomatic controls but not from at least one psychosomatic sub-group tested, patients with ulcer. No statistically significant difference was found between the patients with ulcer and those with headache in terms of their scores on the "ulcer signs."* None of the patients in this series had peptic ulcer, but the majority would have been erroneously identified as ulcer patients on the basis of the ulcer signs.

In agreement with other investigators, the author feels that a patient with headache should be treated as a whole, with attention to both intrapsychic and extrapsychic factors. Evidence from a newly developed "headache scale"† suggests that a patient with headache experiences general tension, tends to avoid close personal contacts, is unable to fully trust others, recognizes irritability but has difficulty in understanding its cause; extrapsychic factors include nutrition, posture and emotional stress. In general, the author's experience has been that reduction in tension and anxiety was correlated with diminished frequency and severity of head pain. In patients with tension and little or no conscious anxiety, emphasis is put on medication, attention to diet, posture and traction, whereas the factor of conscious anxiety[4] seemed more closely related to psychotherapeutic response than either the type of headache or the factor of referred pain as demonstrated by the author's technique. The merit of this maneuver lies in its simplicity. It is valuable for symptomatic relief in some patients and for distinguishing extracranial from intracranial sources of head pain in all cases.

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REFERENCES

1. Association for Research in Nervous and Mental Disease, Proceedings of the Association, New York, 1942.
2. Campbell, D. G., and Parsons, Clare M.: Referred head pain and its concomitants, J. Nerv. and Ment. Dis., 99:544-551, May 1944.
3. Hathaway, S. R., and McKinley, J. D.: The MMPI, University of Minnesota Press, 1943.
4. Welsh, G. S.: An anxiety index and an internalization ratio for the MMPI, J. Consult. Psychol., 16:65-72, 1952.
5. Wolff, H. G.: Headache and Other Pain, Oxford, 1948.

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*Based on analysis by Albert Kostlan, Ph.D., of the Veterans Administration Hospital, Oakland.

†The authors devised a scale, consisting of 28 items derived by item-analyzing features in the records of patients having significant complaint of headache and the records of suitable control patients. The purpose of the scale is to detect persons with headache and their psychological characteristics.

CASE REPORTS

Massive Hemorrhage from a Laceration, Apparently Caused by Vomiting, in the Cardiac Region of the Stomach, with Recovery

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IN A REVIEW of autopsy material, Decker, Zamcheck and Mallory[1] emphasized that lacerations in the cardioesophageal orifice or in the cardia of the stomach are probably induced by vomiting and are occasionally the cause of massive gastrointestinal hemorrhage. This syndrome appears to be relatively uncommon and usually fatal.[4] However, with vigorous replacement of blood and prompt detailed exploration for the site of a massive gastrointestinal hemorrhage, death may be prevented and the patient restored to normal health, as in the case here reported.

REPORT OF A CASE

A 79-year-old woman, first seen at home, said that she had taken a Dramamine® tablet before leaving on an automobile drive of some 30 miles. Approximately two hours later, while returning home, she suddenly felt nauseated and vomited. The vomitus was clear. She vomited again and the vomitus was described by the patient's son as being approximately two pints of bright red blood and "coffee-ground" material. The patient had no pain and denied any previous history of gastric distress which was definitely relieved by food.

Upon examination an hour after the first vomiting, there was no evidence of pain or shock. The patient was not pale, the blood pressure 150/80 mm. of mercury and the pulse rate was 80. During the examination she vomited approximately two pints of bright red blood. She was immediately transported to the hospital for blood replacement. Before transfusion was started she again vomited bright blood so fast and forcefully that blood gushed not only from the mouth but even from the nares. Within ten minutes she became very pale and "shocky." The blood pressure was unobtainable and the pulse was almost imperceptible and extremely rapid. Within the next few hours 11 pints of blood were transfused and the condition of the patient stabilized.

Approximately five hours after the patient was first seen at home she was taken to surgery.* The preoperative diagnosis was bleeding peptic ulcer.

The abdomen was opened through a left paramedian incision extending from the xyphoid process to the umbilicus. The stomach was observed to be about three times normal size but except for this there was no external evidence of abnormality of the stomach or duodenum. The stomach was then opened and about 500 cc. of bright red blood and blood clots were immediately evacuated. The pyloric opening was only about 3 mm. in diameter. After freeing of the pylorus and duodenum to permit further examination it was noted that the pyloric stenosis appeared to be congenital. There was no evidence of scarring or inflammatory reaction. Further inspection was then made within the stomach. At its upper end, about 2 cm. from the cardia, there was a laceration about 5 mm. in diameter on the lesser curvature of the long axis of the stomach. In the laceration several large arteries were bleeding rapidly. There was no evidence of esophageal varices. A very small sterile sigmoidoscope was used to inspect the lower 3 cm. of the esophagus. The mucous membrane was entirely normal. The vessels in the rent in the stomach were transfixed with No. 00 chromic catgut, and the rent was then further closed with a continuous over-and-over suture of No. 00 chromic catgut. At the conclusion of this procedure all the gastric hemorrhage had apparently stopped. Attention was again turned to the pylorus. It was found that the pyloric ring could be forcibly dilated, apparently with some tearing of muscle fibers to admit the entire index finger. The duodenum felt entirely normal. Upon thorough inspection after these procedures were finished no further evidence of hemorrhage in the stomach was observed. The incision in the stomach was then closed with a continuous No. 00 chromic catgut suture, first as a Connell suture, and then with a second suture line of similar material placed over it. During the operation the patient received three pints of blood in addition to the 11 pints given previously.

The patient did very well postoperatively until, when she was about to leave the hospital two weeks after operation, left hemiplegia developed. Clinically, this appeared to be the result of cerebral thrombosis. The hemiplegia gradually improved with only slight residual effects.

Submitted January 3, 1955.

*Operation was done by Dexter N. Richards, Jr., M.D.

A gastrointestinal x-ray series done two and a half months after operation showed a 5 cm. gastroesophageal hiatal hernia of the short-esophagus type with intermittent spasm of the sphincter, and considerable cardioesophageal reflux in the recumbent position. There was no evidence of ulceration. The duodenal bulb was normal.

The patient was observed at regular intervals and when last seen, some six months after operation, was feeling perfectly well. She had no symptoms referable to the gastrointestinal tract. The blood pressure was 160/100 mm. of mercury. Erythrocytes numbered 4.6 million per cu. mm. of blood and the hemoglobin content was 11.8 gm. per 100 cc.

DISCUSSION

As in the 11 cases reported by Decker and coworkers,[1] vomiting was an early and prominent symptom in the present case. It is significant that the patient had a relatively small stenotic pylorus, apparently of congenital origin, and great enlargement of the stomach. It is quite conceivable that with these conditions present an increase in the intragastric pressure associated with vomiting might tear the membranous lining of the stomach. Also, as was pointed out by Decker and by other observers,[2, 3] atrophic gastric mucosa, common in elderly persons, may be less able to withstand the pressure of vomiting. No description or biopsy of the gastric mucosa was made in the present case. There was no history of alcoholism, of malnutrition or of preexisting serious disease. The patient had the degree of arteriosclerosis to be expected in one her age and, although no record was available, she apparently had moderate hypertension for the blood pressure remained in the range of 160/100 to 180/110 mm. in the long period of observation after operation.

SUMMARY

A case is reported of an uncommon form of massive upper gastrointestinal hemorrhage from a laceration in the cardia of the stomach apparently caused by vomiting. The patient fully recovered because of prompt and proper surgical attention.

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REFERENCES

1. Decker, J. P., Zamcheck, N., and Mallory, G. K.: Mallory-Weiss syndrome: Hemorrhage from gastroesophageal lacerations at the cardiac orifice of the stomach, N.E.J.M., 249:957-963, 1953.

2. Guiss, L. W., and Stewart, F. W.: Chronic atrophic gastritis and cancer of the stomach, Arch. Surg., 46:823-843, 1943.

3. Hebbel, R.: Topography of chronic gastritis in otherwise normal stomachs, Am. J. Path., 25:125-142, 1949.

4. Mallory, G. K., and Weiss, S.: Hemorrhage from lacerations of cardiac orifice of stomach due to vomiting, Am. J. M. Sc., 178:506-515, 1929.

Prophylactic Failure of 1,500 Units of Tetanus Antitoxin

A Report of Two Cases

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SINCE CURRENT JOURNAL literature as well as many textbooks still contain references advocating 1,500 units of tetanus antitoxin as adequate prophylaxis[3, 6, 7, 8, 12, 13, 16] and, more unfortunately, since use of this time-dishonored dose still seems to be a favored practice, two cases of tetanus that developed despite the timely administration of 1,500 units of antitoxin are presented. Table 1 lists previously reported cases of the prophylactic failure of the 1,500 unit dose.

CASE REPORTS

CASE 1. A 16-year-old Caucasian boy was admitted to hospital with the chief complaint of stiffness of the jaw for one day. Four weeks previously the patient had laceration of a toe in a motorcycle accident. The laceration was sutured and penicillin and 1,500 units of tetanus antitoxin were given. One week later generalized aches, swelling of the hands and delirium developed. Cortisone was prescribed and the patient became asymptomatic in two days. The day before admittance to hospital he had stiffness of the jaw and spasm of the back and abdomen. There was history of serum sickness to a tetanus antitoxin injection four years before.

The patient was obese. The temperature was 98.6° F., the pulse rate 108 and the blood pressure 140/85 mm. of mercury. There was spasm of the masseter muscles and rigidity of the abdominal muscles. The deep tendon reflexes were hyperactive; toe signs of neurologic abnormality were not present. A healed laceration was noted on the left great toe and there was a burr hole in the toenail.

The hemoglobin content was 16.8 gm. per 100 cc. of blood, and leukocytes numbered 3,500 per cu. mm.—80 per cent polymorphonuclear cells.

Penicillin was given intravenously and the toenail was excised with wide debridement. Because of sensitivity to horse serum the patient was treated with 1,800 mg. of heparin (10 mg. per pound of body weight), after which 200,000 units of tetanus antitoxin was given (40,000 units intravenously and 160,000 units intramuscularly in divided doses), without immediate reaction. In eight hours, the patient complained of itching over the hairy portions

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Submitted November 16, 1954.

of the body, for which diphenhydramine hydrochloride (Benadryl®) was given. Chloral hydrate and Resyl® were used to control muscular contractions which developed the night of admission. On the second day, the patient began having "coffee ground" vomitus and went into shock with blood pressure 90/60 mm. of mercury. The clotting time was greater than one hour. Vitamin K, epinephrin, adrenal cortical extract, blood transfusions and later Vasoxyl® and Neosynephrin® were given; but renal shutdown developed. The patient continued in and out of shock with fever, urticaria and muscle rigidity for 36 hours. The nonprotein nitrogen content rose to 200 mg. per 100 cc. of blood and the patient died during a generalized convulsion on the fourth day after admission. Tracheotomy was not performed. *Cl. tetanus* was cultured from the wound. At postmortem examination, pial hemorrhage and cerebral edema were noted, also purpuric hemorrhages of the endocardium, pronounced pulmonary edema and more than a liter of blood in the gastrointestinal tract although no bleeding point could be discovered. The kidneys and adrenal glands were normal.

CASE 2. A 68-year-old Caucasian man was admitted to hospital with complaint of inability to open the mouth wide, difficulty in swallowing and stiff neck of one day's duration. He had received severe deep lacerations of the left index and middle finger on a buzz saw eleven days before the onset of symptoms. On the day of injury, the lacerations were sutured and 1,500 units of tetanus antitoxin were given. (The patient refused recommended amputation.) The patient was not seen by the physician again until the day of admission to hospital, when 9,000 units of tetanus antitoxin were given, and the patient was referred to the Communicable Diseases Unit. There was no previous immunization for tetanus.

The rectal temperature was 101° F., the pulse rate 80 and the blood pressure 140/70 mm. of mercury. There was slight limitation to opening the mouth. The neck was rigid and slightly hyperextended. A grade I systolic murmur at the apex of the heart was heard. There was moderate spasm of the abdominal muscles and massive bilateral inguinal hernia. The deep tendon reflexes were hyperactive, and the superficial abdominal reflexes were absent. The toe signs were absent but Brudzinski and Kernig signs were present. The distal phalanges of the left, second and third fingers were gangrenous and the edges along the sutured lacerations were moist. There was erythematous and pigmented stasis dermatitis of the legs with a purulent ulcer on the anteromedial surface of the left tibia.

The hemoglobin content was 13 gm. per 100 cc. of blood and leukocytes numbered 15,200 per cu. mm. with 80 per cent polymorphonuclear cells. The pH of the urine was 5.5, the specific gravity 1.027, sugar content 1 plus, albumin 4 plus, and a trace of acetone. There were 3 to 5 erythrocytes and leukocytes per high power field.

After negative reaction to skin and intravenous tests for sensitivity to tetanus antitoxin the patient was given 160,000 units intramuscularly and 40,000 units intravenously. Fifty million units of potassium penicillin G per day was given. Material for culture was taken from the lacerations and the stasis ulcer. The left middle and index fingers were amputated and the stasis ulcer was debrided. Peroxide dressings were applied. On the second hospital day, the patient seemed improved. He could swallow and speak more clearly. However, since fever and stiffness of the neck persisted, lumbar puncture was performed. The cerebrospinal fluid pressure, cell content and chemical content were normal and no organisms grew on culture. On the third hospital day the patient had a tetanic contraction, during which he became cyanotic and excessive pharyngeal secretions developed. Because of difficulty in handling these secretions, tracheotomy was performed. Sedation was maintained by chloral hydrate and calcium bromide. On the fourth day the patient had frequent minor contractions and lapsed into slow, deep, labored breathing. The extremities became cold and the blood pressure dropped to 60/40 mm. of mercury. Plasma, adrenal cortical extract and epinephrin were employed and the patient was put in the Trendelenberg position. The blood pressure rose to 92/50 mm. of mercury but by morning the patient had Cheney-Stokes respirations and seemed moribund. As he gasped and became pulseless caffeine was given, artificial respiration was carried out and epinephrin was injected into the heart, but the patient died. It was noted that among the fluids administered intravenously, 1,000 cc. of physiological saline solution was given on the second and again on the third hospital day. On the third day the nonprotein nitrogen content of the blood was 65 mg. per 100 cc.; carbon dioxide combining power, 20 mEq. per liter; chlorides, 122 mEq. per liter; sodium, 157 mEq. per liter, calcium, 4.4 mEq. per liter.

An ointment that the patient had applied to the ulcers on his legs (a zinc oxide preparation) was cultured and *B. subtilis* grew. *Cl. tetanus* and *cl. welchi* grew on cultures of material from the gangrenous fingers. At postmortem examination, arteriosclerotic heart disease, old myocardial infarction and cerebral cortical atrophy consistent with old age were noted. The lungs were clear.

DISCUSSION

The chief purpose in presenting these two case reports is to note the prophylactic failure of 1,500 units of tetanus antitoxin. The 1,500 unit dose antedates World War I, when the theory was that this represented enough antitoxin to neutralize 2,000 minimal lethal doses for a 150-pound man. There was a decided drop of cases after use of that dose during the war, but it was found not wholly efficacious, particularly in compound fractures, and 10,000 units was given when a man was picked up on the battlefield, 10,000 units at the sorting triage, and 10,000 units at the base hospital. Among advocates of the 1,500-unit dose, some suggest a weekly or preoperative dose as long as a possible focus per-

TABLE 1.—*Reported cases of failure of "prophylactic" dose of tetanus antitoxin*

Author	Year	Age	Focus	Incubation	Severity	Result
1. Dietrich[5]	1940	Child	Compound fracture	7 days	Severe	Died
2. Dietrich[5]	1940	Child	Compound fracture	10 days	Severe	Died
3. Dietrich[5]	1940	Child	Compound fracture	14 days	Severe	Recovered
4. Radley-Smith[11]	1942	50	Cuts, face	14 days	Mild	Recovered
5. Radley-Smith[11]	1942	45	Compound fracture	3½ mos.?	Moderate	Recovered
6. Radley-Smith[11]	1942	39	Shrapnel	8 days	Severe	Recovered
7. Radley-Smith[11]	1942	45	Compound fracture	12 days	Severe	Died
8. Radley-Smith[11]	1942	45	Burn	10 days	Severe	Died
9. Pratt[10]	1945	....	Compound fracture	....	Severe	Died
10. Spaeth[14]	1946	2 yrs.	Burn	6 days	Severe	Died
11. Spaeth[14]	1946	Child	Burn	6 days	Severe	Died
12. Spaeth[14] (Fantin)	1946	Child	Cut	....	Moderate	Recovered
13. Nettrour[9]	1953	Adult	Burn	23 days	Severe	Died
Case 1 of this report		16 yrs.	Cut toe	28 days	Severe	Died
Case 2 of this report		68 yrs.	Cut fingers	11 days	Severe	Died

NOTE: 1500 U.S. units of tetanus antitoxin was given on the day of injury, except in Case 9, in which the dose was received after 24 hours; and in Case 8, in which 1300 units was given.

sists. Spaeth's report of a case of a child developing tetanus in six days despite the timely dose of 1,500 units should be contrary argument enough. Also the development of sensitivity under such a program is an important consideration. Actually, if the patient in Case 1 had been actively immunized after the first injection of tetanus antitoxin and boosters had been given afterward, the serum sickness and tetanus could have been averted. Apparently, though, the incubation period was prolonged to 28 days.

In Case 2 the incubation period was 11 days. This was comparable with the usual incubation period for tetanus. (Combining the published series of Dietrich,[5] Pratt,[10] Vener and Bower,[15] of 184 cases, 100 had known incubation periods of 3 to 15 days; and in most of them the incubation period was 7, 8, and 11 days—the mean average being 8 days.) The fault in the prophylaxis in Case 2 was the faith put in the single 1,500-unit dose and the poor follow-up of the patient. Whether weekly injection of antitoxin would have forestalled tetanus any longer is left to conjecture. Certainly, earlier surgical intervention was indicated, not only from the standpoint of tetanus but also of gas gangrene.

These cases bring out other prophylactic points that might be worthy of discussion: The effect of cortisone in prolonging or decreasing the incubation period; the inefficacy of a single dose of penicillin; the importance of prompt and effective local treatment.

Finally, if 1,500 units does not provide adequate passive immunization, what then is the proper dose? Spaeth[14] and Conn[4] state that 10,000 units should be given. And if the wound is 24 hours old, 20,000 units should be the dose. Bower[1] holds 30,000 units should be used. (In 1946, Spaeth made an emphatic but apparently vain plea that the "time-dishonored" 1,500-unit tetanus antitoxin vial be removed from stock.[14])

The two patients herein reported upon were among 52 with tetanus admitted to the Communicable Disease Unit of the Los Angeles County General Hospital between July 6, 1951, and January 6, 1954.

SUMMARY

Two cases of tetanus that developed even though 1,500 units of tetanus antitoxin was given promptly are presented. Previously reported cases are briefly reviewed.

A dose of 10,000 units rather than 1,500 units is suggested for adequate passive immunization.

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REFERENCES

1. Bower, A. G.: Personal communication.

2. Bradford, W. L.: Tetanus, Mitchell Nelson Textbook of Pediatrics, 5th ed., Saunders, Philadelphia, 1950, pp. 513-518.

3. Cole, L.: The prevention and treatment of tetanus, Brit. Med. J., 1:150-152, Jan. 17, 1953.

4. Conn, H.: Tetanus, Current Therapy, Saunders, Philadelphia, 1949, pp. 36-37.

5. Dietrich, H. F.: Tetanus in childhood, Am. J. Dis. Child., 59:693-710, April 1940.

6. Dingwall, J. A.: Current concepts in the management of systemic and local surgical infections, S. Clin. N. A., 30:363-376, April 1950.

7. Firor, W. M.: Cecil Textbook of Medicine, 6th ed., Saunders, Philadelphia, 1947, pp. 215-221.

8. Glenn, F.: Tetanus, Current Therapy, Saunders, Philadelphia, 1953, pp. 55-57.

9. Nettrour, W. S.: Tetanus report of two fatal cases following trauma, Am. J. Surg., 85:370-375, March 1953.

10. Pratt, E. L.: Clinical tetanus, review of 56 cases, with special reference to methods of prevention and plan for evaluating treatment, J.A.M.A., 129:1243-1247, Dec. 29, 1945.

11. Radley-Smith, E. J.: Tetanus in a London sector in two years of war, Proc. Roy. Soc. Med., 35:340-343, March 1942.

12. Rhoads, J. E.: Tetanus and gas bacillus infection, Christopher Textbook of Surgery, 4th ed., Saunders, Philadelphia, 1945, p. 109.

13. Sandusky, W. R.: Tetanus is a preventable disease, Virginia M. Monthly, 79:177-178, April 1952.

14. Spaeth, R.: Immunization against tetanus, J.A.M.A., 132:667, Nov. 16, 1946.

15. Vener, H. I., and Bower, A. G.: Clinical tetanus, treatment in 100 consecutive cases with net mortality rate of 19 percent, J.A.M.A., 116:1627-1631, April 12, 1941.

16. Workman, W. G.: Tetanus immunization schedule following injury, Postgrad. Med., 3:A-22, Feb. 1953.

Leptospira Pomona Meningitis

A Report of Two Cases

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SINCE Gsell[6] first called attention to the relation of Leptospira pomona to Swineherd's disease, and Beeson[2] noted the occurrence of the disease in the United States, an increasing number of case reports have appeared in the literature.[3, 7, 10, 11, 13] The majority of them have come from Europe, and the problem as it occurs there has been reviewed by Gsell in a comprehensive monograph on the subject.[9] Most of the cases reported in the United States occurred in the southern states.[3, 4, 9, 10, 11, 13] The purpose of this paper is to report on the occurrence of two cases of Leptospira pomona meningitis in the San Francisco Bay area and to call attention to the presence of this disease in California.

CASE REPORTS

CASE 1. A 58-year-old white man was admitted to San Francisco Hospital on November 13, 1953, with complaint of illness of ten days' duration that had begun with severe pain in the head, frontal headache and a slight shaking chill, with development of circumoral herpes simplex two days later. Seven days before admittance to hospital the patient had severe intermittent frontal headache, generalized pain in the body, sweats, chills, malaise, and anorexia. Immediately before admittance he had pain in the right lower anterior quadrant of the chest and generalized low abdominal pain associated with vomiting.

Since entry to this country in 1951 the patient had been a laborer who dug trenches for the laying of sewers. At the onset of illness he had been working in a field where there was a large herd of cattle and this was his only contact with animals.

The patient had had typhus and smallpox at the age of 26 years in Russia, malaria and two episodes of dysentery while in China, and dengue fever in the Philippines. Except for those illnesses he had been in good health generally.

Upon physical examination, flushing of the face, circumoral herpes simplex and pronounced bilateral conjunctivitis were noted. The temperature was 102° F., the pulse rate 80, respirations 20 per minute and the blood pressure 110/64 mm. of mercury. Coarse basilar rales were heard over the right lower lobe posteriorly. The neck was slightly stiff to flexion and Kernig's sign and Brudzinski's sign were present. The tendon reflexes were hypoactive. The patient was not in acute distress and the only complaint was of a moderately severe headache. The hemoglobin content was 12.0 gm. per 100 cc. of blood and leukocytes numbered 12,500 per cu. mm.—92 per cent polymorphonucleocytes and 8 per cent lymphocytes. Results of urinalysis were within normal limits. No abnormalities were seen in an x-ray film of the chest.

Lumbar puncture was carried out and the initial spinal fluid pressure was 220 mm. of water. The fluid was clear and colorless and contained 176 cells per cu. mm.—67 per cent mononucleocytes and 33 per cent polymorphonucleocytes. The cerebrospinal fluid content of chlorides was 650 mg. per 100 cc.; of sugar, 48 mg. per cent; and of protein, 30 mg. per cent. No organisms grew on cultures of the fluid on standard media.

Serological studies for psitticosis, lymphogranuloma venereum, the encephalitis group, mumps, Q fever, influenza and infectious mononucleosis were negative. Serum agglutinations for Leptospira-icterohemorrhagiae and Leptospira canicola were also negative. However, agglutinins for Leptospira pomona done at the Hooper Foundation were 4 plus at 1:1,000 dilution, negative at 1:10,000.

Upon admission, the patient was treated with 1,600,000 units of penicillin intramuscularly daily, and there was progressive improvement. On the fourth hospital day, when the diagnosis of leptospirosis pomona was made, penicillin was discontinued and 4 gm. of aureomycin by mouth was given daily for seven days.

Seven days after admission, lumbar puncture was repeated. The spinal fluid contained no cells and the cerebrospinal fluid chemistry was within normal limits. The Leptospira pomona agglutination test was repeated one week after the initial test, and the titer had gone up to 1:10,000. No Leptospira organisms could be demonstrated in the urine.

Results of liver function tests done two weeks after admission were as follows: albumin 4.3 gm. and globulin 3.6 per 100 cc. of blood, the icteric index 5.5 units and thymol turbidity 4.2 units. Cephalin flocculation was 4 plus in 48 hours.

The patient was afebrile and essentially asymptomatic on the seventh hospital day. The last symptom to disappear was conjunctivitis, which persisted until the fourteenth hospital day.

Six weeks after entry into the hospital, the patient was completely recovered and had returned to work.

CASE 2.* A 29-year-old white man was admitted to Children's Hospital on March 25, 1953, with complaint of stiffness of the neck, upper back pain and severe headache.

About one month before admittance the patient had an illness characterized by severe sore throat, generalized aching, temperature up to 104° F. and occasional chills. The illness had been treated with penicillin and aspirin, and within a week the patient had apparently recovered and had returned to work. Then, five days before admittance, the patient again had malaise and fever, for which penicillin was given. Fever persisted and after two days terramycin was given instead of penicillin. The evening before admission to hospital severe headache developed and there was some nausea and vomiting.

From the Department of Pediatrics, University of California Medical Center, San Francisco 22, and the Isolation Division of the San Francisco Hospital, and Department of Communicable Diseases, Children's Hospital, San Francisco.

Submitted October 4, 1954.

*The authors are grateful to E. B. Shaw, M.D., Children's Hospital, San Francisco, for permission to use Case 2 in this paper.

The patient operated a pig ranch and had been collecting garbage for it. He had no known exposure to communicable disease.

Upon physical examination, moderate stiffness of the neck was noted. The patient was afebrile. Questionable blurring of disc margins, especially on the left, was observed on fundoscopic examination. The results of neuromuscular examination were otherwise negative.

Lumbar puncture was done the morning following admission and the spinal fluid pressure was normal. The cell content was 450 per cu. mm.—80 per cent morphonucleocytes and 20 per cent monocytes. The content of proteins was 85.7 mg., of sugar 71 mg., and of chlorides 670 mg. per 100 cc. No abnormalities were noted upon examination of the blood.

X-ray films of the skull and cervical spine were negative.

Heterophile agglutinations were negative. The result of an agglutination test for Leptospira antigens done at Hooper Foundation was reported as negative on March 26, and positive for Leptospira pomona in dilutions up to 1:10,000 one week later.

The patient showed steady improvement without any specific therapy during the hospital stay. He remained afebrile, the neck and back stiffness disappeared and headache cleared. He was discharged five days after admittance.

DISCUSSION

Both the cases reported were fairly typical of Leptospira pomona. The patients had considerable contact with cattle and swine, respectively; both had febrile illness characterized chiefly by aseptic meningitis with headache, backache and pain in the neck. Both had very high agglutinin titers and one of them had conjunctivitis.

Gsell,[8] who has had the greatest experience with this disease, noted that of 201 cases he had observed, 51.2 per cent were in swineherds or other workers on pig farms, 14.4 per cent were in butchers and 18.4 per cent were in farmers who kept pigs. In this country the role of Leptospira pomona in swine was studied by Burnstein and Baker,[5] who found that 22 per cent of 285 swine that came to market had antibodies to Leptospira pomona. Cattle can be readily infected with this organism but it does not persist more than a few months. This raises doubt as to whether cattle are a natural host of Leptospira pomona as swine seem to be. This question was reviewed recently by Baker and Little.[1]

Gsell,[8] reviewing 49 cases, noted that fever and meningitis occurred in 100 per cent, headache in 88 per cent, neck pain in 78 per cent, relative bradycardia in 65 per cent and conjunctivitis in 61 per cent. Less common symptoms were weakness, pain in the back and in joints, vomiting and diarrhea. Icterus was observed in only one case. Complications are very rare and the prognosis is excellent.

Therapy for Leptospira pomona meningitis is purely symptomatic. Antibiotics have been tried[8, 9] and there is evidence that several of them, in particular aureomycin, are effective in some degree—both in vivo and in vitro. However, the role of antibiotics in this infection is not as yet established.

SUMMARY

Two cases of Leptospira pomona meningitis occurring in the San Francisco Bay area are described.

Leptospira pomona meningitis is a febrile illness characterized by aseptic meningitis, severe headache, conjunctivitis and relative bradycardia. Usually persons who have it have been in contact with swine or cattle.

The diagnosis can be established by demonstrating the presence of an elevated agglutinin titer.

U. C. Medical Center, San Francisco 22.

REFERENCES

1. Baker, J. A., and Little, R. B.: Leptospirosis in cattle, J. Exper. Med., 88:295, Sept. 1948.

2. Beeson, P. B., and Hankey, D. D.: Benign aseptic meningitis as a manifestation of Leptospiral infection. Tr. A. Am. Physicians, 63:130, 1950.

3. Beeson, P. B., and Hankey, D. D.: Leptospiral meningitis, Arch. Int. Med., 89:575-583, April 1952.

4. Beeson, P. B.: Leptospiral infections in man, Am. J. Med., 15:591-592, Nov. 1953.

5. Burstein, T., and Baker, J. A.: Leptospirosis in swine caused by Leptospira pomona, J. Infect. Dis., 94:53, Jan.-Feb., 1954.

6. Gsell, O.: Atiologie der Schweinehuterkrankheit, Bull. Schweiz. Akad. d. med. Wissensch., 1:67-76, May 1944.

7. Gsell, O.: Leptospirosis pomona, die Schweinehuterkrankheit, Schweiz. med. Wchnsch., 12:237-241, March 1946.

8. Gsell, O.: Leptospirosen, Medizinischer Verlag, Hans Huber, Bern, 322 pp., 1952.

9. Hall, H. E., Hightower, J. A., Rivera, R. D., Byrne, R. J., Smadel, J. E., and Woodward, T. E.: Evaluation of antibiotic therapy in human Leptospirosis, Ann. Int. Med., 35(5):981-998, Nov. 1951.

10. Krouse, T., and Sigel, M.: Leptospiral meningitis, Ind. Med. and Surg., 21:121-123, March 1952.

11. Schaeffer, M.: Outbreak of 18 cases of Leptospira pomona in Geneva, Ala., from swimming hole, J. Clin. Invest., 30:670-671, 1951 (abstract).

12. Sutliff, W. D., Shepard, R., and Dunham, W. B.: Acute leptospira pomona arthritis and myocarditis, Ann. Int. Med., 39:134-140, July 1953.

13. Yager, R. H., and Gochenour, W. S.: Leptospirosis in North America, Am. J. Trop. Med. and Hyg., 1:457-461, June 1952.

California
MEDICINE

For information on preparation of manuscript, see advertising page 2

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EDITORIAL

Eisenhower and Health

PHYSICIANS who heaved a sigh of relief when Dwight Eisenhower was elected President of the United States have had cause in the past two years to wonder whether or not some other manifestation might not have been more in order.

Specifically, Dwight D. Eisenhower has not proved to be the savior of the medical profession against socialistic threats; in fact, he has espoused or supported some measures in the Congress which might easily be regarded as moving toward, instead of away from, socialism.

In the last Congress, which was dominated by a slim majority of Republicans, the President achieved a good deal of his overall legislative policy. He missed out on a few measures and turned his back on others but, net, he got pretty much what he asked for.

In the 1955 Congress, where the Democrats are again in control, the President faces the possibility of partisanship and a different policy of look-see on what he proposes as new laws for the country.

A few weeks ago President Eisenhower gave to the Congress his entire program of legislation. Part of it concerned health measures for which he sponsored federal aid or leadership. In the main the medical profession has found this program palatable, although there may be some quibbling over just how far Uncle Sam should go in dominating health programs administered by the states or in foisting such programs on the states and local communities by direction or indirection.

By and large, the medical profession has gone along with Mr. Eisenhower on such matters as fostering additional cancer research, aiding the states to further their past studies on communicable diseases and cooperating in the detection and control of diseases which have heretofore been labeled public health menaces. The American Medical Association has patted the President on the back for his sponsorship or leadership in promoting the public interest in such noncontroversial fields.

When the subject gets into controversial matters, however, there appears ample room for discussion, argument and opposition. And there are two measures now before the Congress, with Administration sponsorship or support, which definitely cause raised eyebrows when considered by physicians.

The first of these bills is the so-called "reinsurance" bill, which proposes to set up a federal fund to reinsure private insurance carriers against the unknown risks encountered in extending the scope of coverage of voluntary health insurance. On the surface this measure seems to have a most humanitarian motive, that of making available to the people a form of health insurance coverage not heretofore offered by underwriters. If this end were actually in sight, the medical profession would doubtless be the first group to embrace this proposal.

However, when a little further research is undertaken, the "reinsurance" bill is stripped of its humanitarian aspect and left as simply another socialistic plan to pour federal funds into what otherwise would be an economic rathole.

Under this proposal, Uncle Sam would set up an insurance agency which would underwrite, to the extent of $100,000,000 the first year, any unusual losses suffered by insurance underwriters in offering to the public an extended coverage of their present health insurance contracts. Uncle, however, would cover only 75 per cent of such losses and would look to the principle of co-insurance for the underwriters to meet the final 25 per cent of such losses. Stripped to this point, the bill appears to be more of a paper argument than a reality. Its only potential adherents would seem to be those underwriters who, for an added premium, would undertake to cover the costs of catastrophic or chronic disease without actuarial knowledge of the risk involved.

Insurance carriers have been loath to assume such risks in the past and their attitude is no different today. In fact, a committee of top-flight insurance executives has already advised the Administration that this type of coverage is not economically sound and that if it were sound, the insurance companies have more than the amount proposed as a federal sop to take on the added risk. Despite this advice from those in the field, the Administration continues to push for passage of this proposal.

The President has added a second controversial measure to his program this year. He has embraced the philosophy of the Wolverton bill offered in the last Congress and not accepted at that time by the President. This bill, in last year's form, would provide federal funds to insure mortgages for the construction of health facilities and hospitals in which prepaid medical cost insurance would provide the bulk of the patients to be treated. There is some indication that the last-named feature may have been eliminated in the 1955 version of the proposal, but the provision of the FHA-type mortgage guarantee remains.

Under this bill, any operator of a closed-panel type of medical cost insurance could look to Washington for a guarantee of mortgage loans to cover his construction of clinics or hospitals. Without this bill, he would be dependent on his own resources and credit standing, as he has been in the past. Why bother with personal credit when federal money is available?

This legislation has been proposed by Representative Wolverton of New Jersey but there appears ample evidence that he has had assistance from outside Congress in the philosophy and drafting of the measure. In fact, in the closing days of the last Congress the congeniality between the offices of Congressman Wolverton and Mr. Henry J. Kaiser, West Coast industrialist, became so obvious in Washington that this proposal was popularly referred to as the "Wolverton-Kaiser Bill."

If such private influence is behind this proposal, the reason would appear obvious. Private credit can be stretched only so far but the public purse can be called upon (if this type of measure is enacted into law) to set up guarantees which will make the normal lending agencies open up their credit ledgers. If this occurs, the entire population of the United States is called upon to furnish financial aid for the realization of private dreams.

Here is where medicine differs with the President. Here is where the battle lines will doubtless be drawn. The resolution of the question of what—financial or socialistic—is best for the American people will become the rallying point for advocates and adversaries.

The fate of this measure in the present Congress will not be determined for some time. Right now Congress is controlled by a Democratic majority, which may well differ with the President in his proposals. Also, there may be some question on the broadened base of this mortgage loan proposal, which in the earlier Congress was limited to a narrower field of potential borrowers.

As introduced in this Congress, the mortgage loan bill is described by Gerald Gross, noted Washington medical observer, as a "section of the President's national health plan . . . sired by Henry J. Kaiser and embraced belatedly by the White House. It goes further than the Wolverton-Kaiser bill of 1954, extending eligibility for loan insurance to operators of proprietary, profit-making hospitals, clinics and licensed convalescent homes as well as nonprofit enterprises."

Such terms of eligibility may not be acceptable to some members of Congress. The entire proposal may also draw fire on partisan lines.

Medicine is nonpartisan. Its interest lies in the good of the people, along both scientific and economic lines. Its voice deserves to be heard in matters of this character.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Executive Committee Minutes

Tentative Draft: Minutes of the 247th Meeting of the Executive Committee, San Francisco, January 13, 1955.

The meeting was called to order by Chairman Heron at 4:00 p.m., Thursday, January 13, 1955, in Room 218 of the St. Francis Hotel, San Francisco.

Roll Call:

Present were President Morrison, President-Elect Shipman, Speaker Charnock, Council Chairman Lum and Auditing Committee Chairman Heron; ex-officio, Secretary Daniels, Editor Wilbur.

A quorum present and acting.

Present by invitation were Dr. Stafford Warren; Messrs. Hunton, Clancy, Thomas and Gillette of C.M.A. staff; legal counsel Hassard; health insurance consultant Rollen Waterson.

1. *Medical Schools:*

Dr. Charnock introduced Dr. Stafford Warren, dean of the medical school, University of California at Los Angeles. Dr. Warren discussed the procedures under which faculty members of the school are permitted to engage in private practice, pointing out that at the outset it had been agreed that there should be a geographical limitation on such practice in order that a full-strength faculty be available for the school. At present, under a voluntary agreement, faculty members are expected to put in one-third of their time in teaching, one-third in research and one-third in service, which includes administrative duties. Where a faculty member wishes to use additional time for private practice, it has been agreed that the income from such practice be not more, after taxes, than the faculty salary provided; any excess is to go to the medical school for research or equipment purposes, and the faculty members have agreed to make their income tax returns available for inspection. Dr. Warren stated that only one faculty member to date had even approached the level of his salary from his private practice. Facilities for private practice at the school consist of only six small rooms to serve 117 faculty members. He suggested that a rule be invoked to require that out-of-pocket expenses be met by the faculty members who engage in private practice.

After considerable discussion, it was agreed to give this matter further study and to thank Dr. Warren for his presentation.

2. *Delegates to American Medical Association:*

On motion duly made and seconded, it was voted to recommend to the Council that Alternate Delegates to the American Medical Association should be entitled to attend one A.M.A. meeting, at the expense of the C.M.A., during any two-year term of office.

3. *Rollen Waterson Associates:*

Mr. Waterson gave a brief progress report on his activities and presented a budget for January and

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ALBERT C. DANIELS, M.D.	Secretary-Treasurer
IVAN C. HERON, M.D.	Chairman, Executive Committee
DWIGHT L. WILBUR, M.D.	Editor
JOHN HUNTON	Executive Secretary

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ED CLANCY	Director of Public Relations

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February, 1955. On motion duly made and seconded, this budget was approved.

4. *Legal Department:*

(a) Mr. Hassard reported on the possibility that legislation to clarify certain aspects of the practice of medicine might be advisable. On motion duly made and seconded, it was voted to authorize legal counsel and the Committee on Public Policy and Legislation to introduce such legislation if this is deemed advisable.

(b) In the matter of an appeal by a member disciplined by a county society, it was agreed to hold the appeal hearing as scheduled but to hold over for decision the request of the appellant to produce witnesses before the Council.

(c) Mr. Hassard also brought up the question raised by an attorney for the plaintiff in a damage suit, who had demanded that he be present during a physical examination of the plaintiff requested by counsel for the defendants. The physician named to conduct such examination had declined to make the examination in the presence of a third party. On motion duly made and seconded, it was voted to authorize legal counsel to file a brief as amicus curiae in this case.

5. *Public Relations:*

Discussion was held on the request of a county society for the appropriation of funds to carry out experimental work with a proposed television program. On motion duly made and seconded, it was voted to reaffirm an earlier Council decision, namely, that public relations programs of a local nature were to be considered as local in character and the financial responsibility of the sponsoring society.

6. *Conference on School Health:*

A recommendation of the Conference on School Health, to the effect that the C.M.A. employ a staff to handle school health organization, was discussed. On motion duly made and seconded, it was voted to have Mr. Thomas handle this matter until such time as he felt that further personnel was needed.

7. *Standing and Special Committees:*

Drs. Daniels and Lum discussed the responsibilities of standing and special committees and the possibility of a more effective use of them. On motion duly made and seconded, it was voted to appoint Dr. Morrison as chairman of a committee to review all standing and special committees and to make recommendations to the Council.

8. *Postgradute Institutes:*

Discussion was held on technical exhibits at postgraduate institutes scheduled by the Committee on Postgraduate Activities and, on motion duly made and seconded, it was voted that all such exhibits should come under the surveillance of the Advertising Committee and all funds from such exhibits should accrue to the Association. Exhibits by C.M.A. subsidiary commissions, committees or corporations should be encouraged and accepted without charge.

9. *Health Insurance Representatives:*

Discussion was held on a request received from five representatives of health insurance carriers, asking for consideration of a proposed program of making indemnities in such commercial contracts tantamount to payment in full for services rendered. On motion duly made and seconded, it was voted that the Council have authority to appoint a committee on this subject, which might meet with a similar committee officially appointed by the Health Insurance Council.

10. *Association of American Physicians and Surgeons:*

An offer of books by the Association of American Physicians and Surgeons was considered and it was agreed to decline the offer.

11. *Medical Services Commission:*

Minutes of a recent meeting of the Medical Services Commission were presented, including a resolution asking that the C.M.A. Council call the attention of the county societies to the availability of indemnity insurance through California Physicians' Indemnity Corp. On motion duly made and seconded, it was voted to follow the request of the Commission.

12. *California State Board of Health:*

On motion duly made and seconded, it was voted to affirm a request for renewed appointments of two members of the California State Board of Health (Sam J. McClendon, M.D., and Francis A. Walsh, pharmacist).

13. *Committee on Mental Health:*

On motion duly made and seconded, it was voted to refer to the editor of CALIFORNIA MEDICINE for possible publication a report of the Committee on Mental Health, for which members of the committee wished to secure added distribution.

14. *Health Insurance:*

On motion duly made and seconded, it was voted to refer to the Medical Services Commission a request from a labor health and welfare fund for conferences on the subject of fee schedules.

15. *California Medicine:*

(a) Editor Wilbur asked for comments on a proposed series of articles which would deal with the practice of medicine in California under varying conditions. It was agreed that further investigation be given this proposal, with a view toward reprinting such articles in the form of a manual.

(b) It was agreed to refer to Dr. Morrison's committee to review standing and special committees the composition of the Executive Committee of the Editorial Board of CALIFORNIA MEDICINE.

16. *Time and Place of Next Meeting:*

It was agreed that the Executive Committee would next meet in San Francisco on Wednesday, March 9, 1955, at 4 p.m.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 9:25 p.m.

IVAN C. HERON, M.D., *Chairman*
ALBERT C. DANIELS, M.D., *Secretary*

In Memoriam

ALLEN, WILLIAM H. Died in Santa Barbara, January 10, 1955, aged 70. Graduate of the University of Pennsylvania School of Medicine, Philadelphia, 1906. Licensed in California in 1945. Doctor Allen was a member of the Santa Barbara County Medical Society.

✤

BALLARD, CARL H. Died in Santa Monica, January 14, 1955, aged 78, of coronary artery disease. Graduate of the University of Michigan Medical School, Ann Arbor, 1900. Licensed in California in 1927. Doctor Ballard was a member of the Los Angeles County Medical Association.

✤

LAUBERSHEIMER, ANTON. Died in Los Angeles, January 29, 1955, aged 47, of coronary artery disease. Graduate of the University of Southern California School of Medicine, Los Angeles, 1935. Licensed in California in 1935. Doctor Laubersheimer was a member of the Los Angeles County Medical Association.

✤

MILLER, FREDERICK F. Died in San Diego, September 13, 1954, aged 69, of coronary artery disease. Graduate of Rush Medical College, Illinois, 1911. Licensed in California in 1932. Doctor Miller was a member of the San Diego County Medical Society.

✤

MORGAN, NORMAN D. Died in San Francisco, January 15, 1955, aged 69, of carcinoma of the stomach. Graduate of the Cooper Medical College, San Francisco, 1910. Licensed in California in 1911. Doctor Morgan was a member of the San Francisco Medical Society.

SHERRILL, JAMES W. Died in La Jolla, January 4, 1955, aged 65, of coronary artery disease. Graduate of Johns Hopkins University School of Medicine, Baltimore, Maryland, 1917. Licensed in California in 1925. Doctor Sherrill was a member of the San Diego County Medical Society.

✤

SHUMAN, JOHN W., JR. Died in Los Angeles, January 16, 1955, aged 41, of Hodgkin's disease. Graduate of Washington University School of Medicine, St. Louis, Mo., 1938. Licensed in California in 1939. Doctor Shuman was a member of the Los Angeles County Medical Association.

✤

STEWART, ROBERT B. Died in Los Angeles, January 19, 1955, aged 75, of reticulum cell sarcoma of lymph nodes. Graduate of the University of Kansas School of Medicine, Lawrence-Kansas City, 1905. Licensed in California in 1928. Doctor Stewart was a member of the Los Angeles County Medical Association.

✤

TALMAGE, CARL H. Died in Puente, January 16, 1955, aged 52, of coronary artery disease. Graduate of the College of Medical Evangelists, Loma Linda-Los Angeles, 1930. Licensed in California in 1930. Doctor Talmage was a member of the Los Angeles County Medical Association.

✤

WILLIAMS, FRANCIS. Died in Los Altos, January 11, 1955, aged 83, of carcinoma after prostatic operation. Graduate of the College of Physicians and Surgeons of San Francisco, 1900. Licensed in California in 1900. Doctor Williams was a member of the San Francisco Medical Society.

WOMAN'S AUXILIARY
TO THE CALIFORNIA MEDICAL ASSOCIATION

This month we'd like to complete the list of our state officers and chairmen who have served so capably during the current year.

ONE EXHIBIT IS WORTH A THOUSAND WORDS

The Chinese said "one picture is worth a thousand words," but the statement is equally true of an exhibit. At our convention each spring, our county auxiliaries display their outstanding projects during the year by means of attractive posters or some other eye-catching devices. Physicians and their wives can spend many profitable moments during the convention, browsing through our exhibits, which will be placed this year at the back of the Rose Room of the Sheraton-Palace Hotel.

Coordinating the work throughout the state is our chairman, Mrs. Van Hamilton of Riverside. She plans to include exhibits showing the Auxiliary's work in nurse recruitment, community service, blood banks, membership drives, public relations and fund-raising projects.

* * *

THE CORRESPONDING SECRETARY IS ALSO CREDENTIALS CHAIRMAN

Mrs. Jack M. Hayes of Bakersfield, our Corresponding Secretary, conducts the official correspondence of the Auxiliary; she is also chairman of Credentials and Registration for the Convention and the Fall Conference, and issues the cards for the delegates and alternates from the component counties.

* * *

WE HAVE A NEW RECORDING SECRETARY

Mrs. Dellivan Fuiks of Sacramento resigned from her job as secretary owing to the serious illness of her husband. In accordance with our Constitution, the Board of Directors voted by mail and elected Mrs. Louis Olker of Chico to serve the unexpired term of office.

Mrs. C. R. Kroeger of Ukiah was appointed to the state Civil Defense chairmanship, formerly held by Mrs. Olker.

The recording secretary is the custodian of all records, books and reports of the Auxiliary; she sends copies of the minutes of the convention and conference to the office of the California Medical Association.

* * *

THE CONVENTION CHAIRMAN HAS A BIG JOB

A smooth-running annual convention depends to a great extent on the efficiency of the Convention Chairman. We are fortunate to have Mrs. T. Edward Bailly, Jr., of San Francisco heading this important event. She has appointed a large number of local Auxiliary members to work with her on such committees as decorations, entertainment, finance, registration, badges, information, printing, press, reception, ushers and signs.

All the meetings of the Auxiliary will be held at the Sheraton-Palace Hotel. A cordial invitation is extended to all doctors' wives, whether or not they are members of the Auxiliary, to attend our business meetings as well as the social events. A special invitation is hereby extended to the doctors' wives living in counties where there is as yet no Auxiliary; they will enjoy hearing the reports of what our 31 Auxiliaries have accomplished, and meeting some of the officers and chairmen of the state organization.

* * *

THE PARLIAMENTARIAN IS AN ADVISER TO THE PRESIDENT

The President's right-hand helper and adviser at every meeting is her parliamentarian. She should be a person well versed in parliamentary law, and familiar with the policies of the Auxiliary. We are fortunate in having a past State President for this important job—Mrs. Carl Burkland of Sacramento. She is also serving National this year as secretary. Another of her duties as parliamentarian is to serve on the Revisions Committee, headed by Mrs. William Newman of San Francisco.

* * *

DISTRICT COUNCILORS WILL BE NAMED IN THE NEXT ISSUE

You have now been introduced to all our state officers and chairmen and you know the important work performed by each. In the next issue we shall present our eleven District Councilors, who are also members of our Board of Directors for the state.

All our officers and chairmen perform their duties in conformity with the regulations, standards and policies of the national Auxiliary and of our own California Medical Association.

Mrs. Frederick J. Miller
President

NEWS & NOTES

NATIONAL • STATE • COUNTY

LOS ANGELES

Dr. William S. Beck, an instructor in medicine at the University of California, Los Angeles, School of Medicine, recently was awarded a five-year investigatorship by the American Heart Association. Research carried on by Dr. Beck under the award will be concerned principally with the mechanics of hydrogen transport in the body's processing of carbohydrates, it was announced.

* * *

A program of 23 technical papers has been established for the third national **Air Pollution Symposium** to be held April 18-20 at the Huntington-Sheraton Hotel, Pasadena. Co-sponsoring the symposium are Stanford Research Institute, California Institute of Technology, University of Southern California, University of California at Los Angeles, the Southern Air Pollution Foundation and the Air Pollution Control Association of Pittsburgh, Pa.

Besides papers on general aspects of air pollution, there will be discussions of analytical techniques, of the effects on plant and animal life and of legal problems.

SAN FRANCISCO

Dr. Emile F. Holman, professor and head of the department of surgery at Stanford School of Medicine, has been awarded a plaque for his contribution to the Cine Clinic program at the Clinical Congress of the American College of Surgeons. Dr. Holman performed an operation for a color motion picture, "The Excision of the Pericardium in Constrictive Pericarditis," which was viewed by surgeons at a meeting of the organization in Chicago last year.

* * *

Dr. Alfred E. Maumenee, head of the department of ophthalmology at Stanford University School of Medicine, has accepted appointment to a professorship at Johns Hopkins School of Medicine, effective July 1. He will replace Dr. Alan C. Woods, who will retire. Dr. Maumenee will also become director of the Wilmer Ophthalmological Institute.

* * *

The golf tournament for physicians, held each year at the time of the Annual Session of the California Medical Association, is scheduled to begin at 10:30 a.m., Tuesday, May 3, at the San Francisco Golf and Country Club, Junipero Serra Boulevard at Alemany Boulevard, San Francisco.

Complete information may be obtained at the main registration desk for the C.M.A., Civic Auditorium.

* * *

The California Society of Allergy will have a reception and dinner, Sunday, May 1, in Room 9 of the Clift Hotel, San Francisco, and a luncheon, Monday, May 2, in the Georgian Room of the Whitcomb Hotel. Any physician may attend. Further information and reservations may be obtained from Dr. Ben C. Eisenberg, 2680 Saturn Avenue, Huntington Park. Both functions are within the period of the California Medical Association Annual Session in San Francisco, May 1-4.

GENERAL

The 1955 meeting of the **American Goiter Association** will be held in the Skirvin Hotel, Oklahoma City, April 28-30.

* * *

The Department of Otolaryngology, University of Illinois College of Medicine, has announced its annual **assembly in otolaryngology** from September 19 through October 1, 1955. The assembly will consist of two parts. Part I—September 19 through September 24—will be devoted to surgical anatomy of the head and neck under the direction of Dr. Maurice F. Snitman. Part II—September 26 through October 1—will be made up entirely of lectures and panel discussion of advancements in otolaryngology. The chairman of this section will be Dr. Emanuel M. Skolnik. Registration is optional for one or both weeks.

POSTGRADUATE EDUCATION NOTICES

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Announces the following spring courses:

Dermatology in General Practice—February 16-March 23, 1955.

Pathological Physiology—February 21-May 9, 1955.

Advanced Psychiatric Case Seminar—March 1-April 19, 1955.

Annual Surgical Lecture Series—March 9-May 25, 1955.

Diagnostic Psychological Testing—April 14-May 9, 1955.

Plastic Repair of Superficial Wounds—April 22 and 23, 1955.

Techniques of Surgery of Malignancies of Oral Cavity, Maxillary, Parotid Gland and Neck—April 25 and 26, 1955.

Physiology, Anatomy and Surgery of the Temporal Bone—April 28, 29, 30, 1955.

Surgical Anatomy of the Thorax, Abdomen and Pelvis—April 28-May 23, 1955.

Obstetrics and Gynecology—early May.

Fevers of Unexplained Origin with Emphasis on Brucellosis—May, 1955.

4th Annual Laboratory Technicians Symposium—June 18 and 19, 1955.

Contact: Thomas H. Sternberg, M.D., Head of Division, Office of the Dean, School of Medicine, Division of Postgraduate Medical Education, U.C.L.A., Los Angeles 24.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

In San Francisco:

Symposia on Psychosomatic Medicine—March 23, 30, and April 6.

Recent Advances in Internal Medicine—April 18 to April 22.

Pediatric Conference—September (dates to be announced later).

Conference on Applied Therapeutics—October 17 to October 19.

Conference on Gynecology and Obstetrics—October 20 and October 21.

Ophthalmological Conference—December 5 to December 9.

In East Oakland:

Medicine for General Practitioners—Tuesday evenings, September 20 to December 6.

In Berkeley:

Postgraduate Conference—Wednesday evenings, September to December (dates to be announced later).

In San Mateo:

Evening Lectures in Medicine—Thursday evenings, September 22 to December 15.

Contact: Office of Medical Extension, University of California Medical Center, San Francisco 22.

STANFORD UNIVERSITY SCHOOL OF MEDICINE, SAN FRANCISCO

Spring Conference in Ophthalmology—March 21 through March 25.

Contact: Office of the Dean, Stanford University School of Medicine, 2398 Sacramento Street, San Francisco 15.

UNIVERSITY OF SOUTHERN CALIFORNIA AT LOS ANGELES

The Medical Extension Education Division of the University of Southern California School of Medicine announces:

March 7 through May 23—Course No. 882—First Section "The Essential Physics of Therapeutic Radiology" (part a), will be held March 7 to April 11; S. C. Medical Research Building, 2025 Zonal Avenue. "The Clinical Application of Radioactive Isotopes" (part b), will be presented from April 18 through May 23, at the Cedars of Lebanon Hospital. This course is especially designed for physicians in the field of radiology and those preparing for certification in this specialty.

Contact: For information and registration: Robert S. Cleland, M.D., Medical Extension Education, University of Southern California, School of Medicine, 2025 Zonal Avenue, Los Angeles 23.

CHILDREN'S HOSPITAL SEMINARS

Infections and Their Management—March 26, 1955

Accreditation by the Board of General Practice has been granted. Gertrude F. Jones, M.D., Chairman, Medical Alumni Committee, Children's Hospital, 3700 California Street, San Francisco 18.

CALIFORNIA MEDICAL ASSOCIATION, POSTGRADUATE ACTIVITIES INSTITUTES

Sacramento Valley Counties—Cal-Neva Biltmore Hotel and Lodge—June 15, 16, 17, 1955.

Contact: C. A. Broaddus, M.D., Director of Postgraduate Activities, P.O. Box AI, Carmel, California.

Medical Dates Bulletin

This bulletin of the dates of postgraduate education assemblies and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: C. A. Broaddus, M.D., P.O. Box AI, Carmel, California.

MARCH MEETINGS

California Medical Association Cancer Commission announces a conference for Imperial Valley* March 8, 1955.

Neurosurgical Society of America, Del Monte Lodge, Pebble Beach, Dr. Lester A. Mounts, 700 168th St., New York 32, secretary. March 16 to 19, 1955.

California Medical Association Cancer Commission announces a conference for Marin County.* March 24, 1955.

Los Angeles County Heart Association announces lecture by Albert Szent-Gyorgyi, Ph.D., M.D., Institute of Muscle Research, Marine Biological Laboratory, Woods Hole, Mass. "Contraction in the Heart Muscle Fibre," March 25, 1955.

California Academy of General Practice announces the Seventh Annual Scientific Assembly, to be held in Los Angeles. For information contact: William W. Rogers, executive secretary, 461 Market St., San Francisco. March 28 to 31, 1955.

California Medical Association Cancer Commission announces a conference for Merced County.* March 31, 1955.

APRIL MEETINGS

California Medical Association Cancer Commission announces a conference for Yolo County.* April 6, 1955.

California Medical Association Cancer Commission announces a conference for Ventura County.* April 12, 1955.

Los Angeles County Heart Association announces lecture by Charles P. Bailey, M.D., Bailey Thoracic Clinic, Philadelphia. "Surgical Treatment of Aortic Stenosis." Formal lecture and 16 mm. colored motion picture and sound covering the transventricular approach to aortic stenosis.† April 15, 1955.

Western Industrial Medical Association announces its 14th annual meeting in conjunction with the California Medical Association Meeting, in San Francisco, at 8:15 a.m. to 5:00 p.m. at the Sir Francis Drake Hotel (Empire Room). No registration fee. April 30, 1955.

MAY MEETINGS

California Medical Association announces: Annual Session, May 1-4, 1955, San Francisco.

A comprehensive five-day course in Poliomyelitis is offered by the Orthopedic Hospital and the Rancho Los Amigos Respiratory Center, Los Angeles. May 2 to 6, 1955.

Contact: Polio Teaching Program, Orthopedic Hospital, 2400 Flower St., Los Angeles 7.

JUNE MEETINGS

American Medical Association announces: Annual Session, 1955, Atlantic City, June 6 to 10, 1955.

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*For information contact: Walter E. Batchelder, M.D., Medical Director, Cancer Commission, 467 O'Farrell St., San Francisco 2.

†For information contact: Los Angeles County Heart Association, 316 South Bonnie Brae St., Los Angeles 57.

INFORMATION

"Error Alone Is Not Negligence"

A Court's Order Bearing on Malpractice Actions

The legal order reproduced here was written by a Superior Court judge in Fresno County in granting a motion by the defense for a new trial in a malpractice suit.

Attorneys for the defendant physicians in this suit filed a routine application for a new trial following hearing of the case before a jury which found in favor of the plaintiff and granted an award of a large amount. The judge's order in granting the application for a new trial sets aside the original verdict and gives the reasoning behind this decision. It is printed here as a means of informing physicians of the legal processes under which even large judgments may be set aside and the reasoning underlying such actions.

To complete the history of this case, it can be noted here that a second trial was held before another judge, starting several months after the rendering of this opinion. In the later trial the jury found in favor of the defendant physicians. Attorneys for the plaintiff appealed this verdict to the District Court of Appeal, which then granted the application of the defendant physicians to dismiss the appeal. This closed the litigation.—*Editor.*

IN THE SUPERIOR COURT OF THE STATE OF
CALIFORNIA, IN AND FOR THE COUNTY
OF FRESNO

EDWARD SPRAKER, *Plaintiff,*
vs.
ASHER D. HAVENHILL and TOBERT J. REUTER, *Defendants.*
No. 87077
Dept. 1

Memorandum Order Granting Motion for New Trial

A judge is expected to have no personal feelings about a case nor the participants therein, or, if he has, to so conceal them that no one will ever know what his true thoughts were. Generally, we agree that too lucid an exposé of the judge's mental processes may not be conducive to public confidence in the machine-like quality of judicial impartiality. Yet, there is also the need for the public to understand, at least in part, a little of the judge's approach. In this case, the circumstances are such that we are going to speak freely the thoughts that flow from our mind.

There has been a hard, cleanly fought battle on the issues presented in this case. The attorneys on each side have convinced us that their conscious minds, at least, are thoroughly imbued with the justice of their case. Their fervor has led them to put forth unusual efforts. From this hotly contested trial a jury of twelve citizens have returned a verdict.

It has long been our conviction that the power of the judge to set aside the verdict was never intended to be used unless the judge is strongly convinced that an injustice has been done. . . .

We are convinced, however, that an injustice has been done in this case. We do not feel sharply critical of the jury. We are satisfied that somehow the Court failed to expound with sufficient clarity the vital application of the rule on proximate cause, or that the ardor and persuasiveness of counsel for the plaintiff itself led them to overlook certain phases of the essential necessities of plaintiff's case.

In our view the evidence is completely insufficient, respecting certain medical phases of this case, to support the verdict under the law.

Doctors, like the members of every other profession, are human beings. Like all other mortals, they err. Like all other members of our family, they tend to err most on those subjects about which our knowledge is the least developed.

In law, every mistake causing damage does not give a right of recovery by the person injured. No matter how much we may sympathize, we cannot give a judgment to the injured party except for an injury proximately caused by the negligence of another. Error alone is not negligence. The error must have been that which an ordinarily careful and prudent person would not have committed in the reasonably careful conduct of the profession.

All of us have read a great deal about cancer. Some of us, at times when we are not too analytical, may think we know considerable about it.

The facts presented in the evidence in this case convince us that there is no such thing as common knowledge among laymen about the recognition or treatment of cancer, and the knowledge of the medical profession is itself extremely limited.

From the evidence before us in this case, it is clear that, while great strides have been made, even since the occurrence of the facts out of which this case arose, as to many circumscribing or attending factors, we do not even know today what cancer is. Each sun that rises gives fresh hope that we are on the verge of a new understanding of its causes, but today we do not know its cause. We do not know when it originates or how it originates.

We have been able to identify certain malformations of cells as being a symptom of its existence, but we do not know what causes the malformation, whether the malformation is the result of an undiscovered virus, malnutrition of cellular structure, sport genealogy of cells, cosmic ray influences on cell structure or some other growth circumstance or combination of factors as yet wholly undiscovered.

So, in the case at bar, we have no sound medical evidence as to the cause of the condition here called cancer. We have no sound medical evidence as to when the cellular change which warns the pathologist of the presence of the disease first occurred. To say that it occurred ten minutes or ten days or ten weeks before the excision from which the pathologist microscopically identified the presence of the dread malformed cells is pure speculation, unsupported by any medical knowledge. It is true that some opinions were ventured as to duration within limits, but even these opinions gave no reasoning based on convincing medical knowledge.

Since we do not as yet know the cause of cancer, we have no means of knowing whether the acts of the doctors in this case were negligent or even in error. Whatever our beliefs on the subject may be, they must, up to now, be dependent on speculation and not on proved facts. Tomorrow, or next week or next year, the myriad of attendant circumstances and facts which our feverish research has produced and established in the past few years about cancer may be correlated so that we can give some sort of sound judgment on cases of this kind, but not today.

It is perfectly clear that, since we do not know the cause of cancer, it is impossible in the instant case to show that any act of the doctors was or was not the proximate cause of the condition complained of. It may well have been some cause entirely unrelated to the acts of the doctors.

With these views of the evidence which is credible to us, it is obvious that we cannot allow the verdict to stand.

The verdict and judgment are vacated and a new trial is ordered on the grounds that the evidence is insufficient to support the verdict and judgment.

The clerk will enter a minute order accordingly. Dated: June 8th, 1953.

Arthur C. Shepard
Judge of the Superior Court

California Conference on Rural Health

More than 350 physicians, rural and community leaders, farmers, extension workers and public health personnel combined to make the 1955 California Conference on Rural Health "an outstanding success," according to conference chairman, Dr. Henry A. Randel, Fresno. The conference, held February 11-12 in Fresno, was sponsored by the California Rural Health Council, of which the California Medical Association is a member organization, and climaxed Rural Health Week as proclaimed by Governor Knight.

Physician representatives of 15 county medical societies were present, plus some 30 doctors from Siskiyou to San Diego. Physicians on the program included: Dr. Randel; Dr. Henry R. Eagle, Redding, who was moderator of a session on medical hospital and allied health services; Dr. Hollis L. Carey, Gridley, a speaker on health insurance; Dr. Malcolm H. Merrill and Dr. Robert Dyar, San Francisco, speakers on community health services; Dr. Carroll B. Andrews, Sonoma, who spoke on medical and hospital services; and Dr. Sidney Madden, Los Angeles, who discussed medical education.

Dr. Arlo A. Morrison, C.M.A. president, opened the conference with the admonition: "Rural health problems are very real, and it is the responsibility of the communities, not just a few individuals, to solve them through a concerted effort."

Dr. F. S. Crockett of Lafayette, Ind., chairman of the American Medical Association Council on Rural Health, declared, "We must discuss these problems with the people who need and use medical services." He pointed out that "we are dealing not with specific things, but with conditions." These conditions, he said, include the distribution of medical and allied services throughout the state, rural sanitation, water supply, waste disposal and communicable disease control.

All these problems were discussed by the speakers and enlarged upon during the round-table meetings. Milton Chernin, from the School of Social Welfare at the University of California, Berkeley, said there has been a tremendous increase in fringe area housing, but declared a great percentage of this was "substandard from the outset."

"While the farm population is declining," he said, "the fringe area populace is increasing and this category includes persons engaged in wholesale and retail trades and manufacturing rather than agriculture."

Dr. Merrill urged a statewide program of increased organized health education—specifically, more planned sanitation facilities for recreational areas.

Dr. Willard C. Fleming, dean of the University of California College of Dentistry, said: "You can't legislate persons into taking care of themselves." He emphasized the need for more dentists and recommended a stepped-up health education program. Fluoridation of water is promising in dental health, he said, but it is not a panacea.

Mrs. Russell Scott, Salinas, vice-president of the California State Parent-Teacher Association, urged greater participation of physicians in community health education—"something that has been lacking all too often in the past."

Dr. Robb Smith outlined the C.M.A.'s physician placement service and cited the need for community participation in aiding young doctors to locate in rural areas. Gordon Cumming, chief of the Bureau of Hospitals for the State Department of Public Health, described the lack of hospital facilities in some parts of California but added: "Before you rush into building a hospital, you should carefully survey the real need. Don't build a 10-bed or 50-bed hospital unless you are sure the community can support it."

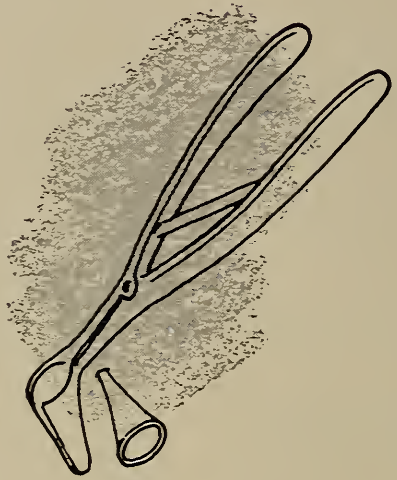
George H. Wilson, Berkeley, president of the California Farm Bureau Federation, discussed "Rural Health Abroad and at Home" at a dinner meeting attended by 250 delegates.

Aubrey Gates, Chicago, field director for the A.M.A.'s Council on Rural Health, led a round-table discussion at the closing session headed by a panel of experts.

Digests of the proceedings will be distributed to headquarters of the sponsoring organizations, including the C.M.A., California Farm Bureau Federation, State Department of Public Health, California Congress of Parents and Teachers, U. C. Extension Service, U. C. School of Public Health, and the California Academy of General Practice.

In adjourning the conference, Dr. Randel said: "The purpose of the conference has been to exchange ideas, to delineate rural problems and to suggest ways and means of solving them. In this, we believe we have succeeded—your attendance and warm enthusiasm have proven that. Next year, we no doubt will be in an even better position to make specific recommendations to constituted authorities and agencies."

The conference generated 14 television and radio programs, both "live" and delayed, plus statewide newspaper and magazine publicity.



THE PHYSICIAN'S Bookshelf

SANDOZ ATLAS OF HAEMATOLOGY—Edited by Dr. E. Undritz of Sandoz Research Laboratories. Sandoz Blood Atlas, 68 Charlton St., N. Y. 14, 1954 (English edition). (Translated from German, 1952 edition.) 91 pages, plus 44 plates containing 579 color slides, $7.00.

The main contribution of this atlas is a series of color photographs illustrating various blood and marrow cells. As such, it provides the best morphological reference work available. The pictures are excellent, and in contrast to most similar texts, show the cells as they are seen through the microscope rather than giving an idealized artistic representation. The pictures are primarily illustrations of individual cellular morphology, and no attempt is made to provide a systematic coverage of blood and bone marrow pathology.

The accompanying text reflects the European preoccupation with details of morphology. Although it contains much useful information including some valuable staining techniques, it cannot serve as a substitute for the standard textbooks of hematology.

This work is highly recommended to medical students and to all who have occasion to examine blood and bone marrow smears. The brilliant stains achieved in the original preparations which were photographed should serve as a standard to laboratories. Far too many errors in morphological interpretation result from unsatisfactory preparations.

* * *

THREE "INCARNATIONS." Florence Sylvester Winchell, M.D., The Christopher Publishing House, Boston 20, Mass., 1954. 268 pages, illustrated. $3.50.

Out of a "sentimental intensity of love" for her father and the indelible impressions his personality made on her life and activities, Dr. Florence Sylvester Winchell presents this most interesting "Three Incarnations," part of the story of her life.

She was the only child of a remarkable Maine-born dentist whose practice in Berlin included the nineteenth century nobility of Germany. An ardent yachtsman, devotee of the arts, a social figure, a wise and conscientious advisor, Dr. Sylvester provided for his daughter the foundations for a rich life.

Her first incarnation she describes as that part of her life in German boarding schools, as hostess on the yacht and in the various of the Sylvester homes; the meetings with Kaiser Wilhelm, great authors, dancers and sculptors; her visit to relatives in the United States and her decision to study medicine in California. Shattered by the news of her father's suicide in Germany, the philosophy of serenity and acceptance which he had instilled in her carried her safely through her first incarnation.

In describing her second incarnation, the University of California Medical School, San Francisco, the earthquake and fire, her internship at the Women's and Children's Hospital in Syracuse, New York, her practice of medicine in Oakland, California, her work in the public schools of Oakland, her years with the Baby Hospital, prenatal clinics, and the incidents of her practice of medicine make a warm, vital, vivid human story.

Her third incarnation brought her to the winter solstice but not alone after her long years. The social whirl of Berlin and her love of her father lie in the dimming past; her experiences, and the sacrifices and joys of medical practice are a memory. Of the love story of her later years she says "life has nothing to offer which might excel it!"

This is a great success story which will appeal to readers who enjoy striking tales about people, events and healthy philosophies.

* * *

A SYNOPSIS OF CHILDREN'S DISEASES. John Rendle-Short, M.A., M.B. (Cantab.), M.R.C.P., D.C.H., Senior Registrar, Department of Child Health, Welsh National School of Medicine. John Wright & Sons, Ltd., Bristol. Distributed through Williams and Wilkins Company, Baltimore, 1954. 608 pages, $7.00.

This Synopsis of Children's Diseases is a most complete and up-to-date presentation of practical pediatrics. While totaling 608 pages, its size is such that it may be readily carried in the pocket or in the medical kit of the practicing physician. It should be of great value to general practitioners, house officers, and junior and senior medical students during their training program in the out-patient and inpatient pediatric services. A most detailed index of 41 pages provides prompt and easy reference to context.

It perhaps would have been better for the authors not to have used Fried's, Clark's or Young's rule for calculation of dosages, but to have established dosages for various drugs on the basis of surface area of the body, a reference which appears to be far more satisfactory than these empiric rules.

While in no sense does this book replace standard up-to-date texts and the necessity for the thorough reading of current pediatric subjects, it will no doubt be of great practical value to those who care for infants and children.

* * *

FLUID THERAPY. James D. Hardy, M.S. (Chem.), M.D., F.A.C.S., Associate Professor of Surgery and Director of the Surgical Laboratories, Medical College of the University of Tennessee. Lea & Febiger, Philadelphia, 1954. 255 pages, $5.50.

The title of this volume by no means does justice to its content, which encompasses far more than "fluid therapy."

In this book, which is written particularly from the point of view of the surgical patient who has fluid, electrolyte and nutritional disorders, the practicing physician and student alike will find answers to many problems with which he is confronted in this increasingly complex field, so important to modern medicine. Much information that is scattered through the literature is here available, as follows: Chapter 1, physiology of body fluid regulation; Chapter 2, methodology used in study of the subject in question; Chapters 3 to 6 deal with the approach to the management of clinical problems. Among the special subjects considered in Chapters 7 to 15 are potassium depletion, management of intestinal obstruction, fluid and electrolyte therapy in infants and children, and problems particularly concerning the surgical specialties. Chapter 16 is concerned with the early treatment of burns; Chapter 17 with blood volume, shock, and the management of blood loss; Chapter 18 with liquid alimentation, and 19 with complications of fluid therapy.

This text, like many texts, suffers from the limitations which briefness requires. For instance, in the limited space it is not possible to be critical of the methods used in studying fluid and electrolyte balance, or to present alternate points of view in problems relating to therapy. For example, the author calculates needs for electrolyte (osmolar) replacement on the bases of extracellular fluid volume, instead of upon the volume of total body water, which is more commonly acceptable. Notwithstanding the differences this reader has with the book, it is one he will want in his own library.

* * *

LECTURES ON THE SCIENTIFIC BASIS OF MEDICINE—Volume II, 1952-1953. University of London. The Athlone Press, 1954, distributed in U.S.A. by John de Graff, Inc., 64 West 23rd Street, New York 10. 380 pages, $6.00.

This volume contains sixteen lectures from a larger series on the scientific basis of medicine sponsored by the British Postgraduate Medical Federation. The authors are all experts in their fields and the range of topics is wide. Progress in antibiotics by Sir Alexander Fleming, the functional significance of connective tissue by Robb-Smith, human hæmoglobins by J. C. White and the principles of ganglionic block by W. D. M. Paton are samples which give an idea of the territory covered. The articles are admirably written as the British know how to do so well. There are bibliographies, figures and fine paper and printing. This enterprise is one which could well be copied in this country.

* * *

PRIMER OF ALLERGY—A Guidebook for Those Who Must Find Their Way Through the Mazes of This Strange and Tantalizing State — Fourth Edition. Warren T. Vaughan, M.S., M.D., Richmond, Va. Fourth Edition revised by J. Harvey Black, M.D., Dallas. The C. V. Mosby Company, 1954. 191 pages, $4.25.

This book can be highly recommended to patients and parents who are confronted and usually puzzled about clinical allergies. Written by the famed pioneering student of the subject, Dr. Warren Vaughan, and recently revised by another highly regarded pioneer in the field, Dr. J. Harvey Black, the volume, now in its fourth edition, is written in a readable and informing manner. The multifaceted information which must be included in the patient's carefully recorded' history, the various allergens entering the body through the gastrointestinal and upper respiratory tract; the many allergens with which skin testing is indicated and possible, the negative skin test which is so common in food allergy and less frequent but existent in inhalant allergy, the unfortunate dependence on diets excluding only positive reacting foods, which is largely preventing the recognition of the many manifestations of food allergy today, and the importance of diet trial for the study and control of food allergy are elucidated in varying degrees in the text.

Treatment is discussed without specific directions, which properly are left in the physician's province. The usual multiplicity of inhalant and/or food allergies rather than allergy to a single allergen is noted. Thus the physician's or allergist's challenge is to consider all possible allergies and gradually through continued study and often long cooperation of the patient, as discussed in the text, to determine the major and, if present, secondary causes through the relief of the patient's symptoms. The obstacles to proper cooperation and the reasons for failure of antiallergic study and control are discussed.

Lay readers are helped greatly by questions and answers at the end of most chapters and at the book's end. Most allergists would modify or change some of this information, making it more specific for food and/or inhalant allergies, especially in directions concerning allergic eczema, allergic headaches, allergic colitis, and gastrointestinal allergy. The listing of foods containing milk and wheat is of help but may give patients the impression that the elimination of single foods usually is effective. The multiplicity of food allergies and the usual necessity of utilizing diet trial accurately and with experience must be appreciated by all. The usual futility of recording practically all diet diaries is insufficiently discussed, since they are usually inaccurate. The physician's time can be better spent in assuring himself that a list of allowed, relatively nonallergic foods, as in standardized elimination diets, is being adhered to and in considering possible allergies to listed foods or to various inhalant and rare infectant allergens when relief fails in a reasonable time.

* * *

A SYNOPSIS OF OBSTETRICS AND GYNAECOLOGY—11th Edition. Aleck W. Bourne, M.A., M.B., B.Ch. (Camb.), F.R.C.S. (Eng.), F.R.C.O.G., Consulting Gynaecologist, St. Mary's Hospital, London; John Wright & Sons Ltd., Bristol, 1954. Distributed by Williams and Wilkins Co., Baltimore. 536 pages, $5.00.

This eleventh edition is a synopsis or compend, presenting the subjects in an easily arranged format. While it has been entirely rewritten, it contains much to which American authors give little attention, such as symphysiotomy. In the treatment of eclampsia, the Stroganoff method is first presented. In the management of diabetes mellitus, no mention is made of early delivery to prevent stillbirths. In this complication of pregnancy, cesarean section is not as well accepted as it is in our country.

In the gynecological section, the chapters on carcinoma are well written and the treatment of fibromyomata seems to be most conservative.

The purpose for which this book is intended, that of an outline for preparing examinations, will be served in the country where the book will be most used.

* * *

TEXTBOOK OF OPERATIVE GYNECOLOGY. Wilfred Shaw, M.A. (Camb.), M.D., F.R.C.S. (Eng.), F.R.C.O.G., Late Surgeon in Charge, Gynecological and Obstetrical Department, St. Bartholomew's Hospital; Examiner, University of London, and Royal College of Obstetricians and Gynecologists. E. & S. Livingstone Ltd., Edinburgh and London, 1954. Distributed by Williams and Wilkins Company, Baltimore, Md. 444 pages, $19.00.

The author of this outstanding contribution to surgical gynecology, Mr. Wilfred Shaw, was a versatile and sound gynecologist, as well as an erudite and gracious teacher, who attracted students from all parts of the world. He contributed extensively to the medical literature but, for many years, resisted the urging of his friends to set down his surgical experience in book form until an inexorable reminder of life's limit convinced him that his time was running out. He withdrew from practice and spent his remaining days creating an operative gynecology, which ranks with the best yet published. It is a fitting memorial to a great gynecologist, for Shaw died before the book came off the press.

Shaw's Operative Gynecology crowds a tremendous amount of information onto 444 pages without sacrifice of necessary details. Shaw describes technique in a vivid conversational style, easy to read and easy to remember. He is never stuffy or rigidly academic. Reading the 29 chapters painstakingly, and perusing at the same time the many excellent illustrations depicting successive steps of operations, is as rewarding as any postgraduate course in gynecology. The author did not intend his text to serve only as a picture book for the avid collector of medical books but as a well documented teaching text. His recommendations, concerning certain operative procedures in preference to others, rest on sound footing. A valuable list of references, culled from the world's medical literature, is appended to each chapter. It would be futile to attempt a detailed critique of this fine text. Suffice it to say that every useful gynecologic operation is described in lucid detail. In addition, pre- and postoperative care, surgical accidents and how to cope with them and, above all, indications have received adequate attention.

There are 380 beautifully executed illustrations in this text. In part, they were redrawn from European and American textbooks. Others were created specifically by the well-known medical illustrator Leslie Caswell in cooperation with Mr. Shaw. There are few textbooks which can rival their visual value. E. & S. Livingstone Ltd., of Edinburgh and London deserve much credit for having made it possible to complete Shaw's last great effort to contribute to sound operative gynecology. The book is printed in large type and bound for hard wear. It is being distributed by Williams and Wilkins of Baltimore, Md.

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BABCOCK'S PRINCIPLES AND PRACTICE OF SURGERY—2nd Ed. Edited by Karl C. Jonas, B.S., M.D., M.S. (Surg.), F.A.C.S., F.I.C.S., Department of Surgery, Temple University School of Medicine. Lea & Febiger, Philadelphia, 1954. 1,543 pages, 1,006 illustrations, and ten colored plates, $18.00.

This new edition of Babcock's Principles and Practice of Surgery, edited by Karl C. Jonas, an associate of Dr. Babcock, is the second edition and is truly modern with an excellent chapter on cardiovascular surgery and peripheral vascular system, and operations on the blood vessels that bring the reader, whether student or practitioner, up-to-date.

The chapter on the thyroid gland, pituitary and adrenal glands is also well done. There is a chapter on pediatric surgery that is also brilliant. All in all, the reviewer considers this one of the most up-to-date textbooks in surgery that has been published and can recommend it, especially as its illustrations are beautifully executed.

* * *

CANCER: RACE AND GEOGRAPHY—Some Etiological, Environmental, Ethnological, Epidemiological, and Statistical Aspects in Caucasoids, Mongoloids, Negroids, and Mexicans. Paul E. Steiner, Ph.D., M.D., Professor of Pathology, the University of Chicago. The Williams and Wilkins Company, Baltimore, 1954. 364 pages, $5.00.

This monograph is chiefly concerned with the etiological implications of racial and geographical differences in cancer. It deals primarily with the twenty most common lethal types of tumor as seen in Caucasoids, Negroids, and Mongoloids in necropsies at the Los Angeles County Hospital, as well as in those racial groups in other parts of the world. It represents an attempt to shed new light on the etiology of human cancer by statistical methods. A secondary objective is to present a statistical analysis of all cancers found in a large series of necropsies.

The more that "racial" cancers are studied, the greater is the tendency for them to vanish as such. What appears at first to be racial in the genetical sense tends upon further examination to be racial only in the cultural or special environmental sense. The resistance of the Jew to cancer of the penis represents not inherent immunity of the cells but is consequent to the cultural custom of early circumcision. The Negro has a low frequency of cutaneous carcinoma not because his cells are nonsusceptible but because they are shielded by melanin from the commonest carcinogen; the albino Negro suffers severely from solar radiation and develops cancer superimposed upon actinic dermatitis.

Following an introduction in which the above topics are mentioned, there is a long chapter dealing with "sources, materials, racial compositions, age, sex, methods, and comparisons with sedentes." Then follow chapters dealing with specific organ cancers such as stomach, colon and so forth, and finally chapters dealing with geographic and ethnic summations.

The author concludes that in general, the numerous racial differences in cancer tend to indicate environmental rather than hereditary factors in etiology. The geographical differences also tend to indicate an environmental predominance.

The material on which the author bases his conclusions is of course not necessarily a representative sample of human cancer. On the other hand, the author's wide professional travels and connections warrant his acceptance as a pathologist of national standing in this important field.

The book is well printed and considering the large amount of material compressed within its 364 pages is quite modestly priced. Students of the cancer problem will find it of considerable interest.

* * *

THE ROLE OF THE PITUITARY IN CANCER—The Clinical Value of Pituitary Lipid Treatment. Henry K. Wachtel, M.D., Scientific Director of the Chemical Hormone Corporation, New York. The William-Frederick Press, 313 West 35th Street, New York 1, N. Y., 1954. 31 pages, $2.00.

The author advocates the use of a pituitary lipid extract (for which he has a registered trade name) in the treatment of cancer. He records some clinical observations made with the use of this material in seven patients. None are accompanied by photomicrographs, roentgenograms or other objective data to substantiate the recorded impressions. None are accompanied by detailed autopsy protocols to show that neoplasm was absent or was specifically controlled at the time of exitus.

As is customary in the case of unproven methods for the treatment of cancer, the author states that the cases he treated were "regarded as lost and at the end of the rope." He does not reveal any evidence to show that distilled water or normal saline given under identical circumstances might not have produced identical results in most of the cases.

In his concluding remarks he observes that the drug "was not yet used in cancer cases for which surgery or radiation offered promise of success." This reviewer regards it as somewhat unfortunate that the author has chosen to include the words "not yet" instead of the words "not and never will be."

This small monograph and its contents cannot be recommended to any serious workers in the field of human cancer.

* * *

LET'S EAT RIGHT TO KEEP FIT. Adelle Davis, A.B., M.S., Consulting Nutritionist. Harcourt, Brace and Company, New York, 1954. 322 pages, $3.00.

The author has assembled all of the important statements concerning nutrition from the biochemical and experimental point of view, and some of the problematical ones. These are dispersed throughout the text as the factual information upon which some rather fanciful interpretations are embroidered. At times the writing is clear and lucid—at other times it is confusing, possibly because of the author's attempt to reach the lay public. The volume misses the mark in being inadequate for the critical physician, in being controversial for the novice, and confusing for the layman.

The author indulges in amateur diagnosis which is both unconvincing and dangerous, and her excursions into therapeutic programs are indeed naive, and in places frankly misleading. In referring to the general subject of nutrition, the author has the following to say: "Nutrition is a young subject; it has been kicked around like a puppy that cannot take care of itself. Food faddists and crackpots have kicked it pretty cruelly. They usually have no scientific training, peddle tremendous amounts of misinformation, make unjustifiable claims, and are often out for commercial gain. They not only put people off by their ridiculous recommendations, they make every thinking person necessarily skeptical of the whole subject." In many respects the author has fallen victim to her own criticism. The volume cannot be recommended because of its inaccuracies and the overdramatic manner in which the material is presented.

* * *

HYPOTHYROIDISM—An Essay on Modern Medicine. Paul Starr, M.D., F.A.C.P., Professor of Medicine, University of Southern California School of Medicine. Charles C. Thomas, publisher, Springfield, 1954. 127 pages, $3.75.

This little book of 127 pages represents No. 211 of the American Lecture Series so successfully developed by Charles C. Thomas. The author emphasizes hypothyroidism rather than myxedema and one does not find the usual historical remarks about Gull's discovery and the early work of the British Commission. Dr. Starr deals with hypothyroidism as a phase of modern endocrinology so that there is full discussion of the disorder in relation not only to thyroid but to pituitary. The "laboratory aspects" are particularly well documented and the numerous case reports, charts and tables enliven the text. Treatment is carefully discussed. There is an index.

* * *

THE SURGERY OF PULMONARY TUBERCULOSIS. James H. Forsee, A.B., B.S., M.D., F.A.C.S., F.A.C.P., Colonel, M.C., U. S. Army, Chief, Surgical Services, Fitzsimons Army Hospital, Denver. Lea & Febiger, Philadelphia, 1954. 208 pages, 59 illustrations, $6.50.

Colonel Forsee has presented us with a very readable monograph. This is the first book to appear in 15 years which is based exclusively on an American experience, and is the first presentation of a large and adequately controlled surgical experience since antituberculosis drugs became generally available. The recorded results equal if they do not surpass the best of any reported series to date. One good reason for these excellent results has been emphasized by the author. His group of patients are close to ideal in that they are predominantly young American males in whom it has been possible closely to supervise both treatment and followup. After all, one seldom leaves the hospital against advice while in the Army. An equally valid reason for the excellence of results is that these patients have been in capable hands all along the line. One of the important points stressed is the evolution of the tuberculosis therapy team as contrasted with the omniscient tuberculosis specialist of an earlier day. Also, it is illuminating and heartening to read the plea for the care of the tuberculosis patient in a general hospital. Many of us have realized for years that the isolated tuberculosis sanatorium had shortcomings, the least of which were the difficulties of securing good surgical skill and competent postoperative care.

There are a few observations to be made on the critical side. The occasional reversal of x-ray reproductions is disconcerting. I find it impossible to make enough distinction radiologically between "fibrocaseous" and "caseofibrous" disease to allow for any differential in surgical results. Endobronchial tuberculosis is treated rather lightly, particularly in view of our continuing experience, that antituberculosis therapy is not always 100 per cent effective in curing this complication. Because the title of this monograph is "Surgery" more detailed consideration should have been given to pleuropneumonectomy, subcostal extraperiosteal procedures, and particularly to the indications for and technique of decortication. In the reviewer's opinion, decortication is fully important enough to demand chapter-attention. Likewise, detailed consideration of concomitant or seriatim use of the "big three" (resection, thoracoplasty and decortication) in the same individual would be helpful. Finally, on purely technical grounds, many surgeons will disagree with crushing the phrenic nerve over a distance of one cm. with the author's preference for the "clamp and suture" method of performing segmental resections, with his apparent unwillingness to save time and trauma by lobar dissection in the extrapleural cleavage plane, and by his suggestion that pneumonectomy is *ever* advised as a substitute for lobectomy because of obliteration of the interlobar fissure.

All in all, however, this is a timely monograph and its contents should become familiar to all physicians who have a special interest in pulmonary tuberculosis. Internist and surgeon, radiologist and pathologist will each discover much of interest and of value in its pages.

* * *

CEREBROVASCULAR DISEASE. James Peter Murphy, M.D., Assistant Clinical Professor of Neurological Surgery, George Washington University School of Medicine. The Year Book Publishers, Inc., 200 East Illinois Street, Chicago, 1954. 408 pages, $12.00.

The appearance of a volume devoted entirely to cerebrovascular disease is a timely one. The high incidence of disorders of cerebral circulation in our progressively aging population has been appreciated for some time, both as a cause of death and of crippling sequelae. During the past few years, a considerable amount of work has been done on the physiology of cerebral blood flow, and there has been increasing interest in diagnostic and therapeutic measures in cases of cerebrovascular disease. The author, who is a neurosurgeon well trained in the basic sciences, has attempted to summarize in an up-to-date manner the various aspects of this broad topic.

The first four chapters deal with the embryology and anatomy of the intercranial vessels. A chapter is devoted to the physiology of the intracranial circulation, summarizing some of the recent data on cerebral blood flow and cerebrovascular resistance, as well as discussing cerebral metabolism, electroencephalography, and the cerebrospinal fluid.

After presenting the clinical and laboratory findings in the acute cerebrovascular accident and attempting to establish criteria for the differential diagnosis, the author proceeds to discuss in separate chapters all aspects of cerebral vasospasm, thrombosis and infarction, embolism, and hemorrhage. Subarachnoid hemorrhage and intracranial aneurysms are presented in a well-organized chapter which includes a discussion of carotid-cavernous fistulae. Other chapters are devoted to vascular tumors, intracranial venous disease, hypertensive brain disease, blood dyscrasias, vitamin deficiencies, and poisons. Sections dealing with the general management of the patient, as well as diagnostic and therapeutic techniques, complete the volume.

In such a controversial field, several of Dr. Murphy's viewpoints may be subject to criticism. Many competent observers will not share his enthusiasm for stellate block in cases of cerebrovascular accidents thought to be due to vasospasm, cerebral thrombosis, or cerebral embolism. Others will feel that he has oversimplified the intravascular pressure relationships in various portions of the carotid and cerebral arteries. In his discussion of intracranial aneurysms, he has avoided the crucial issues of when cerebral arteriography should be performed in cases of subarachnoid hemorrhage, and when intracranial surgery should be carried out in those cases in which it is indicated. The early and late prognosis of spontaneous subarachnoid hemorrhage has been treated superficially. The surgical treatment of intracranial aneurysms both by cervical carotid ligation and by the intracranial approach has not been tabulated in a comprehensive manner. His own enthusiasm for ligation of the common carotid artery in continuity for aneurysms of the internal carotid as well as some anterior and middle cerebral artery aneurysms may be justified, but cannot be supported on the data presented concerning his own cases or those of others.

This volume should prove of value to the student, general practitioner, internist, and pediatrician, as well as to neurologists and neurosurgeons. It is well illustrated with drawings, photographs, photomicrographs, and x-ray reproductions. Each chapter contains an ample bibliography for those who wish to pursue some topic more thoroughly. Its greatest use will probably be in providing the student or busy practitioner with a well-organized and readily understood treatise of the various aspects of cerebrovascular disease. Neurosurgeons, in general, will not find it rewarding in enabling them to better plan or execute the surgical treatment of vascular lesions.

* * *

GROWTH AND DEVELOPMENT OF CHILDREN—Second Edition. Ernest H. Watson, M.D., Professor, and George H. Lowrey, M.D., Assistant Professor, Department of Pediatrics and Communicable Diseases, University of Michigan Medical School. The Year Book Publishers, Inc., 200 East Illinois, Chicago, 1954. 296 pages, $7.00.

The need for a text on growth and development has brought about a second edition of this book which first appeared in 1952. A new chapter on facial growth and dentition has been added. The outdated 1923 Baldwin-Wood tables on weight and height standards for normal children have been replaced by the tables of Stuart and Meridith. There is still room for further improvement in the material presented. It would materially add to the readability and interest of the book if some pertinent clinical interpretation were made of the data presented. Meanwhile, it remains the best handy source of data on growth and development for the average physician.

* * *

HUMAN BIOCHEMISTRY—4th Edition. Israel S. Kleiner, Ph.D., Professor of Biochemistry and Director of the Department of Biochemistry, New York Medical College. The C. V. Mosby Company, St. Louis, 1954. 746 pages, 93 illustrations and five color plates, $7.50.

The fourth edition of this valuable book takes it beyond the category of textbooks of biochemistry into the field of the applied chemistry of physiologic processes so necessary to an understanding of the mechanisms which are the very foundation of the maintenance of health or the understanding of disease. Each chapter is an essay unto itself, and many of them bear rereading not only by students of medicine but also by research workers and practitioners of the healing arts. The author has oriented his work toward the field of applied nutrition, which makes the contribution doubly valuable for physicians as well as students. The chapters on carbohydrate, protein, milk and blood are basic to an understanding of the subjects of food, digestion and vitamins. Wherever possible the author has appended a discussion of the practical applications of the subject matter of the various chapters, as well as a thoughtful and pertinent bibliography of the important contributions to the subject.

The chapter on hormones is a masterpiece of condensation and simplification without sacrificing any of the pertinent contributions to the field. The last chapter is devoted to recent clinical applications of applied biochemistry and its subject matter is essential to general practitioners and internists alike.

The appendices are appropriately devoted to the composition of foods, their nutritional values and mineral contents. The book is very well written and well indexed. It is highly recommended for students, research workers and practitioners of medicine.

* * *

GALEN OF PERGAMON. George Sarton. University of Kansas Press, Lawrence, Kan., 1954. 112 pages, $2.50.

This little book on Galen, as one might expect of anything from George Sarton's pen, is comprehensive, authoritative and well documented. The man, his work and the times are all thoroughly dealt with. Sarton's interesting and polished style with the authority of an accomplished scholar makes this little book delightful reading.

* * *

REVIEW OF MEDICAL MICROBIOLOGY. Ernest Jawetz, Ph.D., M.D., Professor of Bacteriology and Lecturer in Medicine and Pediatrics, University of California School of Medicine; Joseph L. Melnick, Ph.D., Professor of Epidemiology, Yale University School of Medicine; and Edward A. Adelberg, Ph.D., Assistant Professor of Bacteriology, University of California. Lange Medical Publications, P. O. Box 1215, Los Altos, 1954. 360 pages, $4.50.

Textbooks of bacteriology (microbiology) have flowed across this reviewer's desk in a steady stream for the past several years. Few have offered anything over those previously available except for the inclusion of some new facts. Many have been far too elaborate and detailed to be of great value to the medical student who must assimilate microbiology and immunology in two to four months as part of his training in the basic medical sciences.

The present book is designed specifically for the "medical student, house officer, and practicing physician." The reviewer was chilled by these words in the introduction since such statements in textbooks have, in the past, often been prefaces to mere outlines of no use to anyone. That this is not the case here is doubtless due to the background of the authors, particularly that of Dr. Jawetz. He has broad clinical training, as well as vast experience in microbiology, and really knows what is suitable and important for inclusion in a text for this audience.

The reviewer has a stock set of questions which he asks of books such as this and he usually has been disappointed in the answers. In this instance the situation was different. Accurate information and interpretation at a level appropriate for the medical student and physician was obtained in every instance. A future edition might well expand the description of methods used for the *in vitro* estimation of the sensitivity of bacteria to antibiotics to include more technical details. These are widely used and simple descriptions of the techniques used in the laboratory are difficult to find.

The first seven chapters present general statements of principles applicable to microorganisms as a whole, including discussions of metabolism and variation. The former are extraordinarily lucid and should be considered by the student in conjunction with his course in biochemistry.

Two chapters consider antibacterial agents and three describe host-parasite relationships and immune reactions. Systematic microbiology with descriptions of the various bacteria and viruses makes up most of the remainder of the book. Important chapters are devoted to the normal bacterial flora of the body, to diagnostic bacteriology, and to the general principles of virology. The book has been lithographed from typewritten pages, is bound in paper and is, therefore, inexpensive. The reproduction of illustrations is surprisingly good.

This is a first rate book and it should be required reading for medical students. Since it contains no bibliography and a minimum of controversial detail the physician with deeper interests in the subject may wish to own the more elaborate standard texts for reference.

* * *

CULTURAL DIFFERENCE AND MEDICAL CARE—The Case of the Spanish-Speaking People of the Southwest. Lyle Saunders, Associate Professor of Preventive Medicine and Public Health (Sociology), University of Colorado School of Medicine. Russell Sage Foundation, 505 Park Avenue, New York 22, N. Y., 1954. 317 pages, $4.50.

Professor Saunders has written an exceedingly useful and much needed volume on the social structure and folklore of the Spanish-speaking people of the southwestern part of the United States, which includes California, Arizona, New Mexico, southern Colorado and Texas. All persons interested in social welfare among Latin American peoples and the dispensing of medical services to them will find this book extremely valuable. Professor Saunders is a sociologist whose point of view is vital and dynamic, and whose data are derived from basic anthropologic information concerning the peoples under discussion. The concept of race and color of the Spanish-speaking peoples is given with great understanding and clarity. The cultural development and evolution of the rapidly vanishing folklore is also given clarifying light.

For the social welfare worker and the physician alike the origin of superstition and its significance in the attitude of the Spanish-speaking people toward medical services is fully explored. It is apparent from Professor Saunders' study that there is extant a great social revolution among these people and that in time they will be liberated from the class of the underprivileged in direct proportion to their acquisition of our culture and emancipation from the unfounded attitudes of the Anglo-Saxons.

Appended to the volume is a valuable section on notes to each of the six chapters which are so well organized that they may be read alone without hampering the basic text. A very fine appendix on the demographic characteristics of the Spanish-speaking people of the Southwest is available for all who wish to pursue the problem in a more objective fashion. Lastly there is a revealing note on the subject of "witches and witchcraft" without a knowledge of which it would be exceedingly difficult to understand these interesting people.

The book is highly recommended for physicians, social welfare workers and administrators of medical care in the southwest United States.

* * *

HEART—A Physiologic and Clinical Study of Cardio-Vascular Diseases—2nd Edition. Aldo A. Luisada, M.D., Associate Professor and Director, Division of Cardiology, Chicago Medical School. The Williams and Wilkins Company, Baltimore, 1954. 680 pages, 312 figures, $15.00.

Eight years have passed since the first edition of this well-known book. Many chapters have been rewritten and three have been added including one on cardiovascular syphilis (one page). Classification is more on an anatomic (e.g. valvular defects of the left heart) than the usual etiologic basis, but the author uses a dynamic approach to his material. His interest in graphic methods is well recognized; the chapter on technical study is lengthy and graphic representation is extensively employed. Illustrations are numerous and excellent. The bibliography is extensive, particularly as regards the foreign literature. The volume presents a fairly complete but not exhaustive treatise on cardiovascular disease. This book ranks among the best of the cardiology texts and is of interest alike to the medical student, practitioner and cardiologist.

* * *

SURGICAL TREATMENT OF CANCER OF THE CERVIX. Edited by Joe V. Meigs, M.D., Clinical Professor of Gynecology, Harvard Medical School. Grune & Stratton, New York, 1954. 462 pages, $12.00.

This volume is the work of 23 contributors, including seven from foreign countries. An introductory chapter by the editor touches briefly upon many phases of the cervical cancer problem, and runs the gamut from a strange etiologic suggestion to a brief warning about the dangers of sulfa drugs and antibiotics. The next hundred pages are taken up by descriptions of pelvic anatomy, somewhat more than half the space being devoted to duplicate discussions, by two gynecologists, of pelvic lymph nodes and channels. Much of the material on nodes has been published elsewhere and might profitably have been pruned appreciably for inclusion in this volume.

After a brief review of TeLinde's extended hysterectomy for preinvasive carcinoma, one comes to the real meat of this book—a description of radical hysterectomy with bilateral dissection of the pelvic lymph nodes. The editor's excellent, detailed, and well illustrated descriptions of his own technique is sandwiched between two other shorter and less informative chapters on similar operative procedures used by others both here and in Europe to effect radical abdominal hysterectomy.

For reasons which are not obvious, three contributors from foreign clinics were asked to submit descriptions of the Schauta vaginal hysterectomy. This seems to give undue emphasis to a procedure seldom used in this country, owing largely to the impossibility of accomplishing removal of lymph nodes by the vaginal route. But in case the reader wants to find out how to tackle the nodes separately, the late Ira Nathanson has restated his method of retroperitoneal node dissection, and Morton has described a transabdominal approach to the nodes (Traussig's operation).

More than a hundred pages are given over to exenteration operations, with three different descriptions of total exenteration, and then separate discussions of resection of the anterior pelvic organs as well as the posterior pelvic organs. Finally, there are two short sections about the handling of locally recurrent lesions by fulguration and by excision of additional portions of vagina, a brief report on the use of the gracilis muscle to close fistulae, and a urologist's views on urinary tract complications following radical pelvic surgery.

While this book contains a tremendous amount of technical information, none of it really new, it will be used to the full by relatively few physicians, since the opportunities to apply these techniques to large numbers of patients are distinctly limited. But it may serve a useful purpose if, as its editor hopes, it impresses surgeons generally with the need for genuine radicalism in dealing with carcinoma of the cervix and thus discourages the casual operator from attempting less than effective measures in the face of this serious disease.

The typography is excellent and for the most part the illustrations are nicely reproduced. In the chapter on pelvic blood vessels some of the drawings have been reduced so much it is difficult for a presbyopic reader to discern details without the aid of a magnifying lens.

CALIFORNIA MEDICAL ASSOCIATION

announces the

1955 ANNUAL SESSION

CIVIC AUDITORIUM, SAN FRANCISCO

MAY 1-4, 1955

Registration daily, 9 a.m. to 5 p.m. • No Registration Fee

Banquet honoring the President

MAY 2, 1955

House of Delegates

will meet

SUNDAY, MAY 1, and WEDNESDAY, MAY 4, 1955

In The Sheraton-Palace Hotel

- *Members should bring membership cards for identification.*
- Non-member physicians will be registered upon proper identification.
- Nurses, technicians, medical students and office assistants will be registered upon identification from employing physicians, medical schools, etc.
- Pharmacist mates and other military personnel of like grade will be admitted upon presentation of a letter requesting their admittance, written by their commanding officer.
- Dentists (D.D.S.), doctors of veterinary medicine (D.V.M.), dietitians and allied public health personnel will be registered upon proper identification.

4 DAYS OF SCIENTIFIC MEETINGS • TECHNICAL EXHIBITS
SCIENTIFIC EXHIBITS • MEDICAL MOTION PICTURES

APPLICATION FOR HOUSING ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the **California Medical Association**, May 1-4, 1955, in San Francisco, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, you will stand a much better chance of securing accommodations of your choice if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

ALL RESERVATIONS MUST BE RECEIVED BEFORE: APRIL 15, 1955

NOTE: ***The House of Delegates will convene at the Sheraton-Palace Hotel; all scientific sessions and exhibits will be at the Civic Auditorium.***

Eighty-fourth Annual Session

CALIFORNIA MEDICAL ASSOCIATION

San Francisco, California

MAY 1-4, 1955

HOTEL ROOM RATES*

	Single	Double	Twin Beds	Suites
SHERATON-PALACE HOTEL Market and New Montgomery	7.50-15.00	10.00-17.50	10.50-18.00	19.00-65.00
ST. FRANCIS HOTEL Powell and Geary	9.00-20.00	11.00-16.00	13.00-22.00	24.00-40.00
SIR FRANCIS DRAKE HOTEL Powell and Sutter	8.50-14.00	10.50-16.50	13.00-19.50	25.00-36.00
CLIFT HOTEL Geary and Taylor	10.00-15.00	10.00-18.00	13.00-18.00	18.00-35.00
PLAZA HOTEL† Post and Stockton †Deposit required	6.00-7.00		9.00-10.00	
STEWART HOTEL Geary and Powell	4.50-8.00	6.50-10.00	7.00-12.00	12.00-17.00
WHITCOMB HOTEL Market and Eighth	5.00-9.00	7.00-11.00	8.00-12.00	18.00-25.00
ALEXANDER HAMILTON O'Farrell and Hyde	6.00-11.00	8.00-13.50	8.50-14.00	12.00-30.00

*The above quoted rates are existing rates but are subject to any change which may be made in the future

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CALIFORNIA MEDICAL ASSOCIATION
450 Sutter Street—Room 2000
San Francisco 8, California

Please reserve the following accommodations for the 84th Annual Session of the California Medical Association, in San Francisco, May 1-4, 1955.

Single Room $............ Double Bedded Room $............ Twin Bedded Room $............

Small Suite $............ Large Suite $............ Other Type of Room $............

First Choice Hotel............ Second Choice Hotel............

ARRIVING AT HOTEL (date)............Hour:............A.M.............P.M.

Leaving (date)............Hour:............A.M.............P.M.

Hotel reservations will be held until 6:00 P.M., unless otherwise notified

THE NAME OF EACH HOTEL GUEST MUST BE LISTED. Therefore, please include the names of both persons for each double room or twin bedded room requested. Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

Individual Requesting Reservations—Please print or type Delegate?............ Alternate?............

Name............ County............

Address............ City and State............

C.M.A. Cancer Commission Pre-Convention Conference

SAN FRANCISCO—SATURDAY, APRIL 30

Radiology

Comstock Room, Sheraton-Palace Hotel

Chairman..................George Jacobson, M.D., Los Angeles
Secretary........................John Bryan, M.D., San Francisco

DIAGNOSTIC SESSION—9:30 a.m. to Noon

Twelve diagnostic cases with histories and films will be presented. These cases have been selected to illustrate specific problems in the radiological and clinical diagnosis of cancer. Audience participation and discussion will be encouraged.

THERAPY SESSION—2:00 p.m. to 4:30 p.m.

Five cases illustrating specific therapy problems will be presented. Audience participation will be encouraged.

Pathology

9:15 a.m.—Ballroom, Sheraton-Palace Hotel

Moderator: Dominic A. De Santo, M.D., San Diego.

The Pre-Convention Conference on Microscopic Pathology of Gynecological Tumor Problems will be held from 9:15 a.m. to noon and from 2:00 p.m. to 4:30 p.m. under the chairmanship of H. Russell Fisher, M.D. Dominic A. DeSanto, M.D., Pathologist, Mercy Hospital, San Diego, California, will be the moderator. Members who wish to attend this conference are requested to register now with John Budd, M.D., Tumor Tissue Registry, C.M.A. Cancer Commission, Los Angeles County Hospital, 1200 North State Street, Los Angeles 33.

6:00 p.m.—Room 2127, Sheraton-Palace Hotel

Dinner meeting of the California Society of Pathologists. For reservations contact Paul Michael, M.D., secretary, 450 Thirtieth Street, Oakland; telephone, GLencourt 1-4900.

Cancer Commission Dinner

6:00 p.m.—Room 2064, Sheraton-Palace Hotel

Dinner meeting of the Cancer Commission and Advisory Committee.

ARLO A. MORRISON
President

SIDNEY J. SHIPMAN
President-elect

CALIFORNIA MEDICAL ASSOCIATION

84th Annual Session

San Francisco, May 1-4, 1955

Scientific Sessions

Meetings of the House of Delegates

Information

BADGES. It is important that badges be worn at all times. Admission to scientific meetings is by badge only.

COUNCIL. California Room, Sheraton-Palace Hotel—The first meeting of the Council will be held Saturday, April 30 at 9:30 a.m. Further meetings will be held each morning at 7:30 a.m.

DELEGATES. For a list of delegates, meeting times and places, see pages 256 to 258 of this program.

EMERGENCY CALLS AND MESSAGES. Each physician should notify his own secretary regarding the *exact* section he plans to attend and the time of his attendance. It is up to the individual physician to keep his own office staff so informed. The Association will *attempt* to transmit messages to the individual physician.

EXHIBITS. Technical Exhibits—Main Arena, Civic Auditorium. See list, pages 244 to 253.

Scientific Exhibits—Main Arena, Civic Auditorium. See list on page 242.

Medical Motion Pictures will be shown daily in Larkin Hall, Civic Auditorium.

You are urged to visit and attend all exhibits.

MEETING TIMES AND PLACES. See chart on page 220 for exact times and places of general and section meetings.

REGISTRATION. Registration and information desks are located at the Main Entrance of the Civic Auditorium, Grove Street. *All members, guests, and visitors are requested to register immediately on arrival.* There is no charge for registration. Registration desks are open from 9:00 a.m. to 5 p.m. *Admission to the general and section sessions and exhibit areas is by badge only.*

QUALIFICATIONS/REQUIREMENTS FOR REGISTRATION. (a) All M.D.'s with credentials showing that they hold valid license to practice medicine. (Membership card in C.M.A.; county medical society/association or A.M.A. membership card.) (b) Medical students will be admitted upon presentation of credentials from their medical schools identifying them as medical students. (A membership card of the Student American Medical Association or letter from their dean's office.) (c) Medical secretaries will be admitted upon presentation of a letter from the physician-employer. (d) Pharmacist mates and other military personnel of a like grade will be admitted upon presentation of a letter requesting their admittance, written by their commanding officer. (e) Dentists (D.D.S.), doctors of veterinary medicine (D.V.M.), registered nurses (R.N.), student nurses, x-ray technicians, laboratory technicians, dietitians, allied public health personnel, and others will be admitted provided they have proper identification. (f) *All questions on admission will be passed upon by a member of the Committee on Registration who will be present at the desk.*

Other Meetings and Entertainment

• SUNDAY, MAY 1

Woman's Auxiliary to the California Medical Association Reception—Rose Room, Sheraton-Palace Hotel—5:00 p.m. to 7:00 p.m.—Honoring Mrs. Arlo A. Morrison, wife of the President of the C.M.A. All doctors and their wives are cordially invited.

California Society of Allergy Reception and Dinner—Clift Hotel, Room 9.

• MONDAY, MAY 2

PRESIDENT'S DINNER DANCE—Garden Court, Sheraton-Palace Hotel, 8:00 p.m. Formal dress, optional. Tickets will be on sale at the C.M.A. Convention Office, Room A, Sheraton-Palace Hotel.

C.M.A. Past Presidents' Lunch—Royal Suite, Sheraton-Palace Hotel, 12:30 p.m.

Bureau of Medical Economics—Room 2008, Sheraton-Palace Hotel, 10:00 a.m.

Alumni-Faculty Association of the U. C. School of Medicine Luncheon—Ballroom, Sheraton-Palace Hotel, 12:30 p.m.

MONDAY, MAY 2 *(continued)*

Tulane Alumni Association Luncheon—Room 2018, Sheraton-Palace Hotel, 12:30 p.m.

California Society of Allergy Luncheon — Whitcomb Hotel, Georgian Room, 12:15 p.m.

• TUESDAY, MAY 3

ANNUAL GOLF TOURNAMENT—San Francisco Golf and Country Club, Junipero Serra Boulevard at Alemany Boulevard—Tee-Off Time, 10:30 a.m. Complete information will be given you at the Registration Desk along with your Convention Program.

California Medicine Editorial Board Luncheon — French Parlor, Sheraton-Palace Hotel, 12:30 p.m.

Bureau of Medical Economics—Room 2008, Sheraton-Palace Hotel, 10:00 a.m.

Woman's Auxiliary Luncheon—Rose Room, Sheraton-Palace Hotel, 12:30 p.m.—Honoring Mrs. Frederick J. Miller, Mrs. Matthew Hosmer, Past State Presidents, and members of the State Advisory Board. For tickets inquire at the Woman's Auxiliary Registration Desk, Sheraton-Palace Hotel.

Room Directory

C.M.A. Office	Room A, Sheraton-Palace Hotel
Pressrooms	Room B, Sheraton-Palace Hotel and Room 409, Civic Auditorium

Reference Committee Rooms—Sheraton-Palace Hotel

Reference Committee No. 1—Reports of Officers, Council, Standing and Special Committees	Room 2005
Reference Committee No. 2—Finance—Reports of Secretary-Treasurer, Executive Secretary and Budget	Room 2051
Reference Committee No. 3—Resolutions, New and Miscellaneous Business	English Room
Reference Committee No. 4—Amendments to the Constitution and By-Laws	Room 2006
Reference Committee on C.P.S. Business	Room 2127

PROGRAM AND PRE-CONVENTION REPORTS

for the

CALIFORNIA MEDICAL ASSOCIATION

Eighty-Fourth Annual Session
San Francisco, May 1-4, 1955
Civic Auditorium and Sheraton-Palace Hotel

INDEX

PAGE

Photographs of Officers 214

Information 216

Photographs of Guest Speakers 218

Chart of Meeting Times and Places 220

Scientific Assemblies:

General Meetings 221

Section on General Medicine 222

Section on General Surgery 224

Section on General Practice 226

Section on Allergy 227

Section on Anesthesiology 228

Section on Dermatology and Syphilology 229

Section on Eye, Ear, Nose and Throat 230

PAGE

Section on Industrial Medicine and Surgery 231

Section on Obstetrics and Gynecology 232

Section on Pathology and Bacteriology 233

Section on Pediatrics 234

Section on Psychiatry and Neurology 235

Section on Public Health 236

Section on Radiology 237

Section on Urology 239

Index to Speakers 240

Scientific Exhibits 242

Medical Motion Pictures 242

Woman's Auxiliary 243

Technical Exhibits 244

House of Delegates Agenda 254

Officers and Delegates 256

PRE-CONVENTION REPORTS

PAGE

Reports of General Officers 259

Reports of District Councilors 269

PAGE

Reports of Councilors-at-Large 272

Reports of Committees 273

Reports of County Medical Societies 285

Cancer Commission Pre-Convention Conferences, page 213

Guest Speakers

F. AVERY JONES

HERBERT RATTNER

CLAUDE E. WELCH

JOHN R. LINDSAY

THEODORE E. WOODWARD

Guest Speakers

F. Avery Jones, M.D., F.R.C.P., London, England—Physician, Gastroenterological Department, Central Middlesex Hospital; Consultant in Gastroenterology, Postgraduate Medical School of London.

Herbert Rattner, M.D., Chicago, Illinois—Professor and Chairman of the Department of Dermatology, Northwestern University Medical School.

Claude E. Welch, M.D., Boston, Massachusetts—Associate in Surgery, Harvard University School of Medicine.

John R. Lindsay, M.D., Chicago, Illinois—Professor of Otolaryngology, University of Chicago School of Medicine.

Theodore E. Woodward, M.D., Baltimore, Maryland—Professor and Head of Department of Medicine, University of Maryland School of Medicine.

Other Section Speakers from Out of State

L. E. Burney, M.D., Washington, D.C., Assistant Surgeon-General, United States Public Health Service—Guest of the Section on Public Health.

SCIENTIFIC SESSIONS

	SUNDAY MAY 1		MONDAY MAY 2		TUESDAY MAY 3		WEDNESDAY MAY 4	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
SHERATON-PALACE HOTEL Ballroom	**9:30 a.m.** **House of Delegates**						**9:30 a.m.** **House of Delegates**	
CIVIC AUDITORIUM Polk Hall		**2:00** General Medicine	**9:30** General Meeting	**2:00** Clinical-Pathological Conference **3:30** General Medicine General Surgery *Panel Discussion*	**9:30** General Medicine General Surgery	**2:00** General Medicine		
Larkin Hall		**2:00-5:45 p.m.** **Medical Motion Pictures**	**9:00 a.m. to 5:45 p.m.** **Medical Motion Pictures**		**9:00 a.m. to 5:45 p.m.** **Medical Motion Pictures**		**9:00 a.m. to 3:00 p.m.** **Medical Motion Pictures**	
Room 301	**9:30** Pathology and Bacteriology Radiology	**2:00** Pathology and Bacteriology		**2:00** Eye General Practice Pediatrics	**9:30** Obstetrics and Gynecology General Practice	**2:00** Obstetrics and Gynecology	**9:30** General Practice	**2:00** General Practice
Room 405		**2:00** Radiology	**9:30** Radiology	**2:00** Anesthesiology	**9:30** Pediatrics	**2:00** Pediatrics	**9:30** Public Health Pediatrics	**2:00** Public Health
Room 404	**9:30** Urology	**2:00** Urology	**9:30** Industrial Medicine and Surgery	**2:00** Industrial Medicine and Surgery	**9:30** Ear, Nose and Throat			
Room 402		**2:00** General Surgery	**9:30** Allergy	**2:30** Allergy		**2:00** General Surgery		
HEALTH CENTER BUILDING (101 Grove Street) Auditorium	**9:30** Dermatology and Syphilology	**2:00** Dermatology and Syphilology					**9:30** Psychiatry and Neurology	**2:00** Psychiatry and Neurology

COUNCIL OF THE C.M.A. MEETS DAILY AT 7.30 A.M. IN THE CALIFORNIA ROOM, SHERATON-PALACE HOTEL

Technical Exhibits and Scientific Exhibits—Main Arena, Civic Auditorium

Medical Motion Pictures—Larkin Hall, Civic Auditorium

SCIENTIFIC SESSION

General Meetings

MONDAY, MAY 2

9:30—Polk Hall, Civic Auditorium

Chairman: Arlo A. Morrison, M.D., Ventura

9:30—**Address of Welcome**—Herbert C. Moffitt, Jr., M.D., President, San Francisco Medical Society.

9:40—**Address of the President**—Arlo A. Morrison, M.D., Ventura.

10:00—**Clues to Better Understanding of the Nature of Certain Infectious Diseases**—Theodore E. Woodward, M.D., Baltimore, Maryland, by invitation.

10:20—**The Status of Corticosteroid Therapy in Dermatology**—Herbert Rattner, M.D., Chicago, Illinois, by invitation.

10:40—**The Practical Management of Vertigo**—John R. Lindsay, M.D., Chicago, Illinois, by invitation.

11:00—**Ulcerative Colitis**—F. Avery Jones, M.D., London, England, by invitation.

11:20—**The Problem of Diverticulitis: Surgical Management**—Claude E. Welch, M.D., Boston, Massachusetts, by invitation.

MONDAY, MAY 2

2:00—Polk Hall, Civic Auditorium

Clinical-Pathological Conference

Chairman: Dwight L. Wilbur, M.D., San Francisco

2:00—**Case No. 1**—Pathologists: Warren L. Bostick, M.D., San Francisco; Clinicians, to be announced.

2:45—**Case No. 2**—Pathologist: Sidney C. Madden, M.D., Los Angeles; Clinicians: Arthur L. Bloomfield, M.D., San Francisco; F. Avery Jones, M.D., London, England, by invitation; and Claude E. Welch, M.D., Boston, Massachusetts, by invitation.

What's Your Diagnosis?

Read the April issue of CALIFORNIA MEDICINE for Complete Protocols of Cases for C.P.C.

3:30—Recess

3:40— **Panel Discussion**

Virus Diseases

Moderator: Edwin H. Lennette, M.D., Berkeley

Panel Members: Theodore E. Woodward, M.D., Baltimore, Maryland, by invitation; Henry Brainerd, M.D., San Francisco, and William L. Hewitt, M.D., Los Angeles.

EMERGENCY CALLS AND MESSAGES

Each physician should notify his own secretary regarding the *exact* section he plans to attend and the time of his attendance. It is up to the individual physician to keep his own office staff so informed. The Association will *attempt* to transmit messages to the individual physician.

GENERAL MEDICINE

Chairman....................Edgar Wayburn, M.D., San Francisco
Secretary...................Roger O. Egeberg, M.D., Los Angeles
Assistant Secretary.................Harold C. Sox, M.D., Palo Alto

EDGAR WAYBURN
Chairman

ROGER O. EGEBERG
Secretary

SUNDAY, MAY 1

2:00—Polk Hall, Civic Auditorium

2:00—The Clinical Indications for Various Digitalis Preparations—Lewis Gunther, M.D., Beverly Hills.

2:15—The Heart and Alcohol—Maurice Eliaser, Jr., M.D., San Francisco.

2:30—The Clinical Application of Intramural Electrocardiography—Rachid A. Massumi, M.D., Los Angeles, by invitation; Alfred Goldman, M.D., Duarte; L. Schwartz, M.D., Los Angeles, by invitation; Louis Rakita, M.D., Los Angeles, by invitation; Rexford Kennamer, M.D., and Myron Prinzmetal, M.D., Beverly Hills.

2:45—Current Trends in Cancer Chemotherapy—Byron E. Hall, M.D., San Francisco.

3:00—Management of the Incurable Cancer Patient—Howard R. Bierman, M.D., Duarte.

3:15—Intermission.

3:25—

Symposium

Anemia

3:25—Anemias of Malignancy—Arthur J. Samuels, M.D., Duarte, by invitation.

3:40—Iron Deficiency Anemia and Thalassemia Minor—Differential Diagnosis—Paul M. Aggeler, M.D., and Ralph O. Wallerstein, M.D., San Francisco.

3:55—Differential Diagnosis of the Anemias—John H. Lawrence, M.D., and Nathaniel I. Berlin, M.D., by invitation, Berkeley.

4:10—Thirty-two Cases of Primary and Secondary Polycythemia — Eugene J. Ellis, M.D., Los Angeles.

4:25—Panel Discussion on Anemias—Moderator: Byron E. Hall, M.D., San Francisco.

Members of the Panel: John H. Lawrence, M.D., Berkeley; Ralph O. Wallerstein, M.D., San Francisco; Arthur J. Samuels, M.D., Duarte, by invitation; and Eugene J. Ellis, M.D., Los Angeles.

MONDAY, MAY 2

2:00—Polk Hall, Civic Auditorium

Joint Meeting with Section on General Surgery

Clinical-Pathological Conference

and

Panel Discussion on Virus Diseases

For Program, see Section on General Meetings

TUESDAY, MAY 3

9:30—Polk Hall, Civic Auditorium

Joint Meeting with Section on General Surgery

Symposium

Peptic Ulcer

Chairmen: Edgar Wayburn, M.D., San Francisco
William Brock, M.D., Stockton

9:30—Pathology of Peptic Ulcer—Alvin J. Cox, M.D., San Francisco.

9:45—Mechanism of Symptoms of Peptic Ulcer—Arthur L. Bloomfield, M.D., San Francisco.

10:05—The Internist's Approach to Management of Gastric and Duodenal Ulcer—F. Avery Jones, M.D., London, England, by invitation.

10:35—Intermission.

10:40—**The Surgeon's Approach to Management of Gastric and Duodenal Ulcer** — Claude E. Welch, Boston, Massachusetts, by invitation.

11:10—**Megaloblastic Anemia Associated with Surgically Produced Abnormalities** — James A. Halsted, M.D., Los Angeles.

11:25—**Panel Discussion on Management of Peptic Ulcer, Including Surgically Produced Complications** — Moderator: Arthur L. Bloomfield, M.D., San Francisco.

Members of the Panel: Alvin J. Cox, M.D., San Francisco; F. Avery Jones, M.D., London, England, by invitation; Claude E. Welch, M.D., Boston, Massachusetts, by invitation; and James A. Halsted, M.D., Los Angeles.

TUESDAY, MAY 3

2:00—Polk Hall, Civic Auditorium

2:00—**Chairman's Address: The Challenge of Chronic Disease**—Edgar Wayburn, M.D., San Francisco.

2:15—**Experience with Controlled Vitamin U Therapy in the Management of Peptic Ulcer at San Quentin Prison**—Garnett Cheney, M.D., and Samuel H. Waxler, M.D., San Francisco.

2:30—**Special Gastroenterological Diagnostic Procedures**—Joseph A. Rider, M.D., San Francisco; Leo Van Der Reis, M.D., and Jennie Lee, M.D., San Francisco, both by invitation.

2:45—**The Diagnosis of Various Acute Nontuberculous Pulmonary Infections** — Theodore E. Woodward, M.D., Baltimore, Maryland, by invitation.

3:15—**Business Meeting and Election of Officers.**

3:20—**Intermission.**

3:30—**Brittle Diabetes—Manifestations of Hyperinsulinism**—Kalmen A. Klinghoffer, M.D., San Francisco.

3:45—**Thyrotoxic Crisis**—Boris Catz, M.D., Los Angeles, by invitation.

4:00—**Clinical Correlation of Blood Lipids in Coronary Atherosclerosis**—Thomas P. Lyon, M.D., and Alexander Yankley, M.D., San Jose, and John W. Gofman, M.D., Berkeley, by invitation.

4:15—**What Is Essential Hypertension?** — Julius Bauer, M.D., Los Angeles.

4:35—**Some Observations on 500 Gouty Individuals**—William C. Kuzell, M.D., San Francisco.

REGISTRATION

Registration and information desks are located at the Main Entrance of the Civic Auditorium, Grove Street. *All members, guests, and visitors are requested to register immediately on arrival.* There is no charge for registration. Registration desks are open from 9:00 a.m. to 5:00 p.m. *Admission to the general and section sessions and exhibit areas is by badge only.*

ADMISSION TO SESSIONS AND EXHIBITS BY REGISTRATION BADGE ONLY

GENERAL SURGERY

Chairman.........................William Brock, M.D., Stockton
Secretary...................Lyman A. Brewer, III, M.D., Los Angeles
Assistant Secretary............Orville F. Grimes, M.D., San Francisco

WILLIAM BROCK
Chairman

LYMAN A. BREWER, III
Secretary

SUNDAY, MAY 1

2:00—Room 402, Civic Auditorium

2:00—Radiation Injury to the Small Bowel with Special Consideration of Surgical Complications which Might Follow—Harvey Peterson, M.D., by invitation, and Edwin Clausen, M.D., Oakland.
Discussion.

2:25—Surgical Treatment of Chronic Relapsing Pancreatitis—S. Austin Jones, M.D., Los Angeles; and Louis L. Smith, M.D., Los Angeles, and George Gregory, M.D., Los Angeles, both by invitation.
Discussion.

2:50—Chairman's Address—William Brock, M.D., Stockton.
Discussion.

3:15—Surgery of the Biliary Tract—William P. Longmire, Jr., M.D., Los Angeles.
Discussion.

3:40—Intestinal Obstruction in the Newborn—Otto Tuschka, M.D., Fresno.
Discussion.

4:05—Gastrointestinal Symptoms Following Subtotal Gastrectomy—A Comparative Study—William Weirick, M.D., by invitation, and Orville F. Grimes, M.D., San Francisco.
Discussion.

4:30—Adrenalectomy Project for Control of Metastatic Breast Cancer—Marcus H. Rabwin, M.D., Beverly Hills.
Discussion.

MONDAY, MAY 2

2:00—Polk Hall, Civic Auditorium

Joint Meeting with General Medicine

Clinical-Pathological Conference

and

Panel Discussion on Virus Diseases

For Program, see Section on General Meetings

TUESDAY, MAY 3

9:30—Polk Hall, Civic Auditorium

Joint Meeting with General Medicine

Symposium

Peptic Ulcer

For Program, see Section on General Medicine

TUESDAY, MAY 3

2:00—Room 402, Civic Auditorium

2:00—Business Meeting and Election of Officers.

2:15—Surgical Treatment of Bleeding Esophageal Varices—Roy B. Cohn, M.D., San Francisco.
Discussion.

2:40—The Management of Upper Gastrointestinal Hemorrhage—Claude E. Welch, M.D., Boston, Massachusetts, by invitation.
Discussion.

3:05—**Billroth I Gastric Resection for Peptic Ulcer: 25 Cases**—Paul M. Johnston, M.D., Long Beach, by invitation.

Discussion.

3:30—**Complications of Peptic Ulcers in the Aged**—C. E. Stafford, M.D., and Eugene J. Joergenson, M.D., Los Angeles.

Discussion.

3:55—**The Management of the Malfunctioning Postgastrectomy Stoma**—Gordon K. Smith, M.D., Los Angeles.

Discussion.

4:20—**Postoperative Complications Incident to Subtotal Gastrectomy**—Harold P. Totten, M.D., Inglewood.

Discussion.

QUALIFICATIONS/REQUIREMENTS FOR REGISTRATION

(a) All M.D.'s with credentials showing that they hold valid license to practice medicine. (Membership card in C.M.A.; county medical society/association or A.M.A. membership card.)

(b) Medical students will be admitted upon presentation of credentials from their medical schools identifying them as medical students. (A membership card of the Student American Medical Association or letter from their dean's office.)

(c) Medical secretaries will be admitted upon presentation of a letter from the physician-employer.

(d) Pharmacist mates and other military personnel of a like grade will be admitted upon presentation of a letter requesting their admittance, written by their commanding officer.

(e) Dentists (D.D.S.), doctors of veterinary medicine (D.V.M.), registered nurses (R.N.), student nurses, x-ray technicians, laboratory technicians, dietitians, allied public health personnel, and others will be admitted provided they have proper identification.

(f) *All questions on admission will be passed upon by a member of the Committee on Registration who will be present at the desk.*

ADMISSION TO SESSIONS AND EXHIBITS BY REGISTRATION BADGE ONLY

GENERAL PRACTICE

Chairman....................Joseph W. Telford, M.D., San Diego
Secretary...................Stanley R. Parkinson, M.D., Marysville
Assistant Secretary.......T. Jackson Laughlin, M.D., North Hollywood

JOSEPH W. TELFORD
Chairman

STANLEY R. PARKINSON
Secretary

MONDAY, MAY 2

2:00—Room 301, Civic Auditorium

Joint meeting with sections on Eye, Ear, Nose and Throat, and Pediatrics

Symposium

Reading Disabilities in Children

For Program, see Section on Eye, Ear, Nose and Throat

TUESDAY, MAY 3

9:30—Room 301, Civic Auditorium

Joint Meeting with Section on Obstetrics and Gynecology

Panel Discussion

The Adoption Problem in California

For Program, see Section on Obstetrics and Gynecology

WEDNESDAY, MAY 4

9:30—Room 301, Civic Auditorium

Symposium

Disorders of the Intestinal Tract

Moderator: Arthur L. Bloomfield, M.D., San Francisco

9:30—Infections of the Intestinal Tract — John Rumsey, M.D., San Diego.

9:55—Mechanical Lesions of the Bowel—Donald C. Balfour, Jr., M.D., Los Angeles.

10:20—Chemistry and Electrolyte Changes in the Intestinal Tract—Allen E. Moe, M.D., Sacramento.

10:45—Functional Aspects of the Intestinal Tract—Dwight L. Wilbur, M.D., San Francisco.

11:10—Round Table Question and Answer Period.

12:00—Business Meeting and Election of Officers.

WEDNESDAY, MAY 4

2:00—Room 301, Civic Auditorium

2:00—Differential Diagnosis of Lesions of the Neck —Ray J. Millzner, M.D., San Francisco.

2:30—The General Practitioner in the Treatment of Alcoholism—Donald W. Hewitt, M.D., Los Angeles.

3:00—Problems Arising from the Substitution of Other Drugs in the Treatment of Alcoholism —Frederick R. Ford, M.D., Berkeley.

BRING PROPER IDENTIFICATION FOR REGISTRATION

ALLERGY

Chairman........................Norman Shure, M.D., Los Angeles
Vice-Chairman................L. J. Courtright, M.D., San Francisco
Secretary ....Ben C. Eisenberg, M.D., Huntington Park

NORMAN SHURE
Chairman

BEN C. EISENBERG
Secretary

MONDAY, MAY 2

9:30—Room 402, Civic Auditorium

9:30—Is There a Specific Emotional Pattern in Allergic Disease?—M. Coleman Harris, M.D., San Francisco.

Discussion.

10:00—Maintenance Therapy of Chronic Allergic Disease with Cortisone and Adjuvants—Walter R. MacLaren, M.D., Pasadena, and D. Edward Frank, M.D., Sun Valley.

Discussion.

10:30—Chairman's Address: The Place of Allergy in Medicine—Norman Shure, M.D., Los Angeles.

11:00—Differential Diagnosis and Treatment of Allergic Headache—Harold N. Perelson, M.D., Los Angeles.

Discussion.

11:30—The Allergist's Territory—Milton M. Hartman, M.D., San Francisco.

Discussion.

12:15—Georgian Room, Whitcomb Hotel

12:15—Luncheon Meeting—Sponsored jointly by the Section on Allergy and the California Society of Allergy.

MONDAY, MAY 2

2:30—Room 402, Civic Auditorium

Symposium

Modern Concepts of Bronchial Asthma

2:30—Non-Allergic Asthma: Differential Diagnosis and Treatment—Samuel H. Hurwitz, M.D., San Francisco.

Discussion.

3:00—The Problem of Bronchial Asthma — Ralph Bookman, M.D., Los Angeles.

Discussion.

3:30—Psychosomatic Aspect of Bronchial Asthma —Eugene Ziskind, M.D., Los Angeles.

Discussion.

4:00—Asthma, Chronic Bronchitis and Emphysema: A Practical Therapeutic Approach—Roger H. L. Wilson, M.D., and Judith D. Smith, M.D., San Francisco.

Discussion.

4:30—Pharmacology of Drugs Used in Asthma—Norman W. Karr, M.D., Los Angeles.

Discussion.

VISIT THE TECHNICAL AND SCIENTIFIC EXHIBITS

ANESTHESIOLOGY

Chairman	Marshall L. Skaggs, M.D., Sacramento
Secretary	John P. Howard, M.D., San Diego
Assistant Secretary	Robert W. Churchill, M.D., Santa Rosa

MARSHALL L. SKAGGS
Chairman

JOHN P. HOWARD
Secretary

MONDAY, MAY 2

2:00—Room 405, Civic Auditorium

Symposium

Muscle Relaxants

Chairman: Marshall L. Skaggs, M.D., Sacramento

2:00—Chairman's Address — Marshall L. Skaggs, M.D., Sacramento.

2:10—Introduction to Muscle Relaxants—Curtis H. Swartz, M.D., San Diego, by invitation.

2:30—Effects of Muscle Relaxants on Respiratory and Circulatory Dynamics—Philip J. Bailey, M.D., San Francisco.

2:50—The Use and Abuse of Relaxants in Anesthesia—Bruce M. Anderson, M.D., Oakland.

3:10—Recess.

3:20—Panel Discussion on Relaxing Drugs—Moderator: Charles C. Wycoff, M.D., San Francisco.

3:40—Question and Answer Period.

3:50—Economics of Anesthesiology as Related to Fee Schedules—Forrest E. Leffingwell, M.D., Pasadena.

4:10—Business Meeting and Election of Officers.

EMERGENCY CALLS AND MESSAGES

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DERMATOLOGY AND SYPHILOLOGY

Chairman....................Edward A. Levin, M.D., San Francisco
Vice-Chairman..............Harold C. Fishman, M.D., Beverly Hills
Secretary....................R. Raymond Allington, M.D., Oakland
Assistant Secretary..............Anker K. Jensen, M.D., Los Angeles

EDWARD A. LEVIN
Chairman

R. RAYMOND ALLINGTON
Secretary

SUNDAY, MAY 1

9:30—Auditorium, Health Center Building

9:30—**Basal Cell Carcinoma of the Nose**—Gilbert A. Beirne, M.D., San Francisco.
Discussion by R. Raymond Allington, M.D., Oakland.

9:50—**Chairman's Address: Mortality Rate of Skin Cancer**—Edward A. Levin, M.D., San Francisco.

10:05—**What's New and What's True of What's New in Dermatology?**—Herbert Rattner, M.D., Chicago, Illinois, by invitation.

10:30—**Recess.**

10:40—**Antimalarials in Lupus Erythematosus** — Manuel F. Allende, M.D., San Francisco, and Roy W. Leeper, M.D., Oakland, by invitation.

Discussion by Eugene M. Farber, M.D., San Francisco.

11:00—**Leprosy in California**—Paul Fasal, M.D., San Rafael.

Discussion by Rosemary Brunetti, M.D., Berkeley.

11:20—**Cortisone in Coccidioidomycosis**—Norman E. Levan, M.D., Bakersfield.

Discussion by J. Walter Wilson, M.D., Los Angeles.

11:40—**Business Meeting and Election of Officers.**

SUNDAY, MAY 1

2:00—Auditorium, Health Center Building

2:00—**Surgical Planing of the Skin for Scars and Other Defects—A Critical Evaluation** — S. William Levy, M.D., San Francisco.

2:20—**Plastic Planing for Scars and Defects of Skin—A Reevaluation of Indications and Management of Complications**—Willard L. Marmelzat, M.D., Los Angeles.

2:40—Discussion by Herbert Rattner, M.D., Chicago, Illinois, by invitation.

3:00— **Symposium**

New Drugs in Dermatology

Moderator: Edward A. Levin, M.D., San Francisco.

Panel members: Herbert Rattner, M.D., Chicago, Illinois, by invitation; Samuel Ayres, III, M.D., Los Angeles; Norman N. Epstein, M.D., Eugene M. Farber, M.D., and Rees B. Rees, M.D., San Francisco.

ADMISSION TO SESSIONS AND EXHIBITS BY REGISTRATION BADGE ONLY

EYE, EAR, NOSE AND THROAT

Chairman....................Francis A. Sooy, M.D., San Francisco
Secretary....................Robert N. Shaffer, M.D., San Francisco
Assistant Secretary............Robert W. Godwin, M.D., Long Beach

FRANCIS A. SOOY
Chairman

ROBERT N. SHAFFER
Secretary

MONDAY, MAY 2

2:00—Room 301, Civic Auditorium

Joint Meeting with Sections on
General Practice and Pediatrics

Symposium

Reading Disabilities in Children

Moderator: Arthur Jampolsky, M.D., San Francisco.

2:00—Ophthalmological Factors — Kenneth Grow, M.D., Beverly Hills.
Discussion.

2:30—Etiology and Emotional Factors—Hale Shirley, M.D., San Francisco.
Discussion.

3:00—Educational Factors—Leo Cain, Ph.D., San Francisco, by invitation.
Discussion.

3:30—Treatment—Lucie Lawson, Ph.D., San Francisco, by invitation.

4:00—General Discussion.

4:30—Business Meeting.

TUESDAY, MAY 3

9:30—Room 404, Civic Auditorium

9:30—Otitic Hydrocephalus—L. J. Barnes, M.D., Inglewood.
Discussion.

10:00—Carcinoma of the Lip—Franklin L. Ashley, M.D., Los Angeles.
Discussion.

10:30—A Nonrhinoplastic Correction of Collapse of the Alar Cartilages—Allen H. Sherman, M.D., San Francisco.
Discussion.

11:00—Stapes Mobilization in the Treatment of Otosclerosis—What Can Be Expected from this Procedure—John R. Lindsay, M.D., Chicago, Illinois, by invitation.
Discussion.

PRESIDENT'S DINNER DANCE

MONDAY, MAY 2

Garden Court, Sheraton-Palace Hotel, 8:00 p.m.

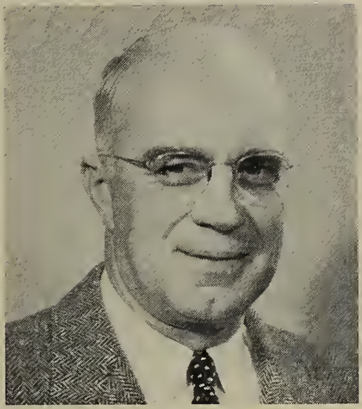
Formal dress optional

Tickets will be on sale at the C.M.A. Convention Office,
Room A, Sheraton-Palace Hotel

INDUSTRIAL MEDICINE AND SURGERY

Chairman	Dan O. Kilroy, M.D., Sacramento
Secretary	Verne G. Ghormley, M.D., Fresno
Assistant Secretary	Homer Elmquist, M.D., Los Angeles

DAN O. KILROY
Chairman



VERNE G. GHORMLEY
Secretary

MONDAY, MAY 2

9:30—Room 404, Civic Auditorium

9:30—Prolonged Sympathetic Block in Disabilities of the Extremities—Albert Fields, M.D., Los Angeles.
Discussion.

10:00—Primary Repair of Nerve Injuries in the Hand—Carl E. Nemethi, M.D., Los Angeles.
Discussion.

10:30—The Shoulder Joint—Observations on Comparative Anatomy, Physiology and Treatment—Laurence Jones, M.D., Beverly Hills.
Discussion.

11:00—Fracture of the Anatomical Neck of the Humerus, With or Without Dislocation, Treated by Replacement Prosthesis—Charles W. Gilfillan, M.D., Los Angeles.
Discussion.

11:30—Chairman's Address—Use of Hydrocortone in Industrial Practice—Dan O. Kilroy, M.D., Sacramento.
Discussion.

12:00—Business Meeting and Election of Officers.

MONDAY, MAY 2

2:00—Room 404, Civic Auditorium

2:00—Finger and Hand Injuries as Seen by the Industrial Accident Commission—J. L. Barritt, M.D., San Francisco.
Discussion.

2:30—The Insecticides: Their Hazard in Industry and in the Home:
Part I—Pharmacology and Chemistry — Thomas J. Haley, Ph.D., Los Angeles, by invitation.
Part II—The Clinical Aspect—R. T. Johnstone, M.D., Los Angeles.
Discussion.

3:30—Epididymo-Orchitis in Industrial Surgery—Jay J. Crane, M.D., Los Angeles.
Discussion.

4:00—Obstetrical and Gynecological Problems Associated with Trauma—Robert J. McNeil, M.D., Los Angeles.
Discussion.

4:30—Relationship of Industrial Injury to Osteoarthritis—J. Vernon Luck, M.D., Los Angeles.
Discussion.

BRING PROPER IDENTIFICATION FOR REGISTRATION

OBSTETRICS AND GYNECOLOGY

Chairman	Harold K. Marshall, M.D., Glendale
Vice-Chairman	Charles T. Hayden, M.D., Oakland
Secretary	George E. Judd, M.D., Los Angeles

HAROLD K. MARSHALL
Chairman

GEORGE E. JUDD
Secretary

TUESDAY, MAY 3

9:30—Room 301, Civic Auditorium

Joint Meeting with Section on General Practice

9:30—The Relationship Between Ovarian and Thyroid Function—William J. Dignam, M.D., Los Angeles.

Discussion by Keith P. Russell, M.D., Los Angeles.

10:00—The Management of Ano-Perineal Pruritus—Rachelle Seletz, M.D., Beverly Hills.

Discussion by Carl Goetsch, M.D., Berkeley.

10:30— **Panel Discussion**

The Adoption Problem in California

Moderator: William Benbow Thompson, M.D., Los Angeles.

Members of the Panel: Miss Lucile Kennedy, Chief, Division of Child Welfare, California State Department of Social Welfare, Sacramento, by invitation; Mr. Philip Adams, Attorney-at-Law, Member, Adoption Committee, San Francisco Bar Association, San Francisco, by invitation; B. J. Hanley, M.D., Los Angeles, and James V. Campbell, M.D., Oakland.

Written questions from the floor will be considered.

TUESDAY, MAY 3

2:00—Room 301, Civic Auditorium

2:00—Chairman's Address—Harold K. Marshall, M.D., Glendale.

2:30— **Panel Discussion**

Office Gynecology

Moderator: Ludwig A. Emge, M.D., San Francisco.

Members of the Panel: George F. Calvin, M.D., Oakland; Ralph L. Hoffman, M.D., San Diego; William C. Bradbury, M.D., Santa Monica; and Walter C. Rogers, M.D., Pasadena.

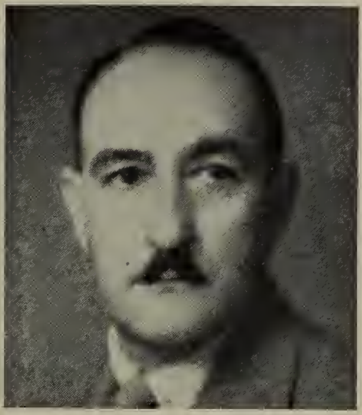
Written questions from the floor will be considered.

4:00—Business Meeting and Election of Officers.

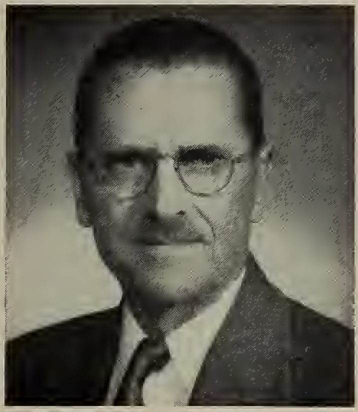
VISIT THE TECHNICAL AND SCIENTIFIC EXHIBITS

PATHOLOGY AND BACTERIOLOGY

Chairman	Paul Michael, M.D., Oakland
Secretary	Orlyn B. Pratt, M.D., Los Angeles
Assistant Secretary	Justin Dorgeloh, M.D., Oakland



PAUL MICHAEL
Chairman



ORLYN B. PRATT
Secretary

SUNDAY, MAY 1

9:30—Room 301, Civic Auditorium

Joint Meeting with Section on Radiology

For Program, see Section on Radiology

SUNDAY, MAY 1

2:00—Room 301, Civic Auditorium

2:00—Torsion Patterns of Chordae Tendineae in Rupture of Papillary Muscle — Albert F. Brown, M.D., Glendale, and Herbert I. Harder, M.D., Glendale, by invitation.

2:20—Toxoplasmosis of Newborn—Histological Changes in Lymph Node of Mother with Isolation of Toxoplasma from Mother's Lymph Node by Mouse Passage—Carter M. Alexander, M.D., Covina, and John Collister, M.D., Pasadena, by invitation.

2:40—Chairman's Address: The History of Pathology in California—Paul Michael, M.D., Oakland.

3:20—Cellular Characteristics Assistant in Prognosis of Therapeutic Efficacy in Malignant Disease—John K. Frost, M.D., and David A. Wood, M.D., San Francisco.

3:40—Business Meeting and Election of Officers.

REGISTRATION

Registration and information desks are located at the Main Entrance of the Civic Auditorium, Grove Street. *All members, guests, and visitors are requested to register immediately on arrival.* There is no charge for registration. Registration desks are open from 9:00 a.m. to 5:00 p.m. *Admission to the general and section sessions and exhibit areas is by badge only.*

PEDIATRICS

Chairman	Gordon F. Williams, M.D., Stanford
Secretary	Milo B. Brooks, M.D., Los Angeles
Assistant Secretary	Moses Grossman, M.D., San Francisco

GORDON F. WILLIAMS
Chairman

MILO B. BROOKS
Secretary

MONDAY, MAY 2

2:00—Room 301, Civic Auditorium

Joint Meeting with Sections on
Eye, Ear, Nose and Throat, and General Practice

Symposium

Reading Disabilities in Children

For Program, see Section on
Eye, Ear, Nose and Throat

TUESDAY, MAY 3

9:30—Room 405, Civic Auditorium

9:30—Lumps and Bumps of Early Childhood—Wilbur C. Thomas, M.D., Los Angeles.

Discussion.

10:00—Management of the Acute Phase of Extensive Burns in Children—Edward H. Senz, M.D., San Francisco, by invitation.

Discussion.

10:20—Emotional Factors in Physically Handicapped Children—Rocco Motto, M.D., Los Angeles, by invitation.

Discussion.

10:40—Dentistry for Children—What—When—Why—Mode R. Perry, D.D.S., Los Angeles, by invitation.

Discussion.

11:00—Tuberculous Bronchitis in Children—Henry J. Rubin, M.D., Los Angeles.

Discussion.

11:30—Business Meeting and Election of Officers.

TUESDAY, MAY 3

2:00—Room 405, Civic Auditorium

Round Table

Blood Problems of Children

Moderator: Gordon F. Williams, M.D., Stanford.

2:00—Part I—Anemias of Infancy and Childhood:

(a) Iron Deficiency Anemias and Iron Metabolism.

Discussion opened by Nathan J. Smith, M.D., Los Angeles.

Comments on Intravenous Iron—James C. Bramham, M.D., Sacramento.

Comments on Hemosiderin—Ralph O. Wallerstein, M.D., San Francisco.

(b) Erythroblastosis Fetalis.

Discussion opened by Philip Sturgeon, M.D., Los Angeles.

(c) Hereditary Hemolytic Anemias.

Discussion opened by Theodore H. Spaet, M.D., San Francisco.

3:30—Questions from the floor.

3:50—Recess.

4:00—Part II—Hemorrhagic Diseases.

(a) The Purpuras.

Discussion opened by Ralph O. Wallerstein, M.D., San Francisco.

(b) Hemophilia and Its Management.

Discussion opened by Theodore H. Spaet, M.D., San Francisco.

4:40—Questions from the floor.

WEDNESDAY, MAY 4

9:30—Room 405, Civic Auditorium

Joint Meeting with Section on Public Health

Panel Discussion

Communicable Diseases in General Hospitals

For Program, see Section on Public Health

PSYCHIATRY AND NEUROLOGY

Chairman..................George N. Thompson, M.D., Los Angeles
Secretary.........................Knox H. Finley, M.D., San Francisco
Assistant Secretary..........R. Gordon T. Millar, M.D., San Francisco

GEORGE N. THOMPSON
Chairman

KNOX H. FINLEY
Secretary

WEDNESDAY, MAY 4

9:30—Auditorium, Health Center Building

9:30—What Do Our Psychiatrists Think About Alcoholism? — Max Hayman, M.D., Beverly Hills.

Discussion by Theo K. Miller, M.D., Napa.

10:00—The Relationship of the Practicing Physician to the State Mental Health Program—Walter Rapaport, M.D., Sacramento.

Discussion.

10:30—Pharmacological Psychotherapy — Theodore Rothman, M.D., Beverly Hills.

Discussion by A. E. Bennett, M.D., Berkeley.

11:00—Thorazine—Robert A. Hall, M.D., Agnew.

Discussion.

11:30—The Frequency of Organic Brain Damage and Related Symptoms on a Cross Section of Juvenile Delinquents—H. V. Tavris, M.D., Whittier.

Discussion by Harry Brickman, M.D., Los Angeles.

12:00—Business Meeting and Election of Officers.

WEDNESDAY, MAY 4

9:30—Auditorium, Health Center Building

2:00—Chairman's Address—Brain Tumors in Neurologic and Psychiatric Practice—George N. Thompson, M.D., Los Angeles.
Discussion.

2:30—Some Observations on Psychiatric Problems of Geriatric Patients in a Mental Hospital—Nathan Malimud, M.D., San Francisco, by invitation; Wrenshall A. Oliver, M.D., Imola; and Alexander Simon, M.D., San Francisco.
Discussion.

3:00—An Eighteen-Month Follow-up in Cases of Equine Encephalitis — Richard J. Palmer, M.D., San Francisco.
Discussion.

3:30—Analysis and Therapy of Cerebellar Ataxia and Asynergia—Herman Kabat, M.D., San Francisco.
Discussion.

4:00—Gliomas of the Optic Nerve—John W. Hanbery, M.D., San Francisco, by invitation.
Discussion.

4:30—Recent Advances in the Management of Injuries to the Brain (Based on the Study of 20,000 Cases)—Emil Seletz, M.D., Beverly Hills.
Discussion by Howard Brown, M.D., San Francisco.

ADMISSION TO SESSIONS AND EXHIBITS BY REGISTRATION BADGE ONLY

PUBLIC HEALTH

Chairman........................L. S. Goerke, M.D., Los Angeles
Secretary........................E. M. Bingham, M.D., Stockton
Assistant Secretary................W. J. Menke, Jr., M.D., Pasadena

L. S. GOERKE
Chairman

E. M. BINGHAM
Secretary

WEDNESDAY, MAY 4

9:30—Room 405, Civic Auditorium

Joint Meeting with Section on Pediatrics

9:30—**The Pre-School Child Health Conference with Emphasis on Mental Health**—Clinton B. Hollister, M.D., Santa Barbara.

10:00—**The Problem of Antibiotic-Resistant Staphylococcal Infections**—C. Henry Kempe, M.D., San Francisco, by invitation.

Discussion by Edward B. Shaw, M.D., San Francisco.

10:30—**The Combined Role of the Health Department and the Hospital in Meeting Community Health Needs**—L. E. Burney, M.D., Assistant Surgeon General, U. S. Public Health Service, Washington, D.C., by invitation.

11:00— **Panel Discussion**

Communicable Diseases in General Hospitals

Moderator: Arthur C. Hollister, Jr., M.D., Chief, Bureau of Acute Communicable Diseases, California State Department of Public Health, Berkeley.

Members of the Panel: Merl J. Carson, M.D., Professor of Pediatrics, U.S.C. School of Medicine, Los Angeles; Edward B. Shaw, M.D., Professor of Pediatrics, U.C. School of Medicine, San Francisco; and Luigi Luzzatti, M.D., Assistant Professor of Pediatrics, Stanford University School of Medicine, San Francisco.

WEDNESDAY, MAY 4

2:00—Room 405, Civic Auditorium

2:00—**Polio Vaccine Field Trials**—James C. Malcolm, M.D., San Leandro, and Thomas R. Perdue, M.D., San Leandro, by invitation.

2:30—**The California Morbidity Survey—A Progress Report**—Lester Breslow, M.D., Berkeley, and H. William Mooney, Ph.D., Berkeley, by invitation.

Discussion by Francis E. West, San Diego.

3:00—**A Tuberculosis Survey of Prisoners in San Joaquin County**—Duane D. Deakins, M.D., L. M. Barber, M.D., and Eugene W. Minard, M.D., Stockton.

Discussion by Gordon Diddy, M.D., and Robert Monlux, M.D., Fresno.

3:30—**Laboratory Procedures for Virus Diseases**—A. F. Rasmussen, Jr., M.D., Los Angeles, and Charles F. Pait, Jr., M.D., Los Angeles, by invitation.

Discussion by Edwin H. Lennette, M.D., Berkeley.

4:00—**The Physician and Weight Control Programs**—Sheldon Margen, M.D., Berkeley, and David Frost, M.D., Alameda.

4:30—**Business Meeting and Election of Officers.**

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RADIOLOGY

Chairman....................H. R. Morris, M.D., San Bernardino
Secretary...................Merrell A. Sisson, M.D., San Francisco
Assistant Secretary...............Austin R. Wilson, M.D., Glendale

H. R. MORRIS
Chairman

MERRELL A. SISSON
Secretary

SUNDAY, MAY 1

9:30—Room 301, Civic Auditorium

Joint Meeting with Section on
Pathology and Bacteriology

Case Presentations and Panel Discussion

Moderators: Radiologist—Sydney F. Thomas, M.D., Palo Alto; Pathologist—John W. Budd, M.D., Los Angeles.

Members of the Panel: Radiologists—Robert G. Freeman, M.D., Pasadena; Stanford B. Rossiter, M.D., Menlo Park. Pathologists—Louis Lichtenstein, M.D., Los Angeles, by invitation; Robert J. Parsons, M.D., Oakland.

1—**Extensive Osteolytic Lesion of Distal Femur**—Charles R. Fielder, M.D., Radiologist; and J. La Monte Zundell, M.D., Pathologist, San Francisco.

2—**Chest Wall and Right Lower and Middle Lobe Lesions**—J. A. Pennington, M.D., Radiologist; and Lewis E. Nolan, M.D., Pathologist, Sacramento.

3—**Chest Lesion**—C. J. Attwood, M.D., Radiologist; and Charles Baker, M.D., Pathologist, Oakland.

4—**Large Intrathoracic Mass in a Three-Year-Old**—Harold A. Cole, M.D., Radiologist, Pomona; and W. C. Thomas, M.D., Pathologist, Los Angeles.

5—**Skull Lesion**—John C. Bennett, M.D., and Howard L. Steinbach, M.D., Radiologists; and Robert Hoyt, M.D., Pathologist, by invitation, San Francisco.

6—**Chest Lesion with Pleural Manifestation**—Klaus R. Dehlinger, M.D., Radiologist; Hamilton R. Fishback, M.D., and Paul G. Winquist, M.D., by invitation, Pathologists, Berkeley.

7—**Posterior Chest Mass**—John R. Bryan, M.D., Radiologist; and Melvin B. Black, M.D., Pathologist, San Francisco.

8—**Role of Radioactive Iodine in the Diagnosis and Treatment of Thyroid Cancer (Case presentations)**—Justin J. Stein, M.D., Leslie R. Bennett, M.D., and Baldwin G. Lamson, M.D., Los Angeles.

9—**Lesion of Innominate Bones**—Dan Tucker, M.D., Radiologist, and James Richardson, M.D., Pathologist, by invitation, Oakland.

SUNDAY, MAY 1

2:00—Room 405, Civic Auditorium

2:00—**Roentgen Diagnosis of Renal Neoplasms**—John H. Woodruff, Jr., M.D., Huntington Park; and Conrad Chalek, M.D., Torrance, by invitation.
Discussion.

2:30—**Roentgen Aspects of Coccidioidomycosis in Children**—J. W. Birsner, M.D., Bakersfield, and Anton J. De Fede, M.D., by invitation, Bakersfield.
Discussion.

3:00—**Radiologic Diagnosis of Increased Intracranial Pressure in Children**—William T. Grant, M.D., Pasadena.
Discussion.

3:30—**Recess—Business Meeting and Election of Officers.**

3:40—**The Value of the Lateral Chest Roentgenogram as a Routine Procedure**—Denis C. Adler, M.D., W. L. Stilson, M.D., Los Angeles, and Kitman Au, M.D., Los Angeles, by invitation.
Discussion.

(*See next page*)

4:10—Experience with Cobalt^{60} Teletherapy for Intraoral Cancer—William E. Costolow, M.D., and William R. Wisdom, M.D., Los Angeles.

Discussion.

4:40—The Technique of Radioactive Treatment for Severe Heart Disease—Henry L. Jaffe, M.D., Los Angeles.

Discussion.

MONDAY, MAY 2

9:30—Room 405, Civic Auditorium

9:30—Evaluation of Indirect X-Ray Findings in the Diagnosis of Herniated Intervertebral Disc—A. Justin Williams, M.D., and Thomas Fullenlove, M.D., San Francisco.

Discussion.

10:00—Special Radiological Techniques:

(a) The Tracheoesophagram in Infants;

(b) Parotid Gland Position;

(c) Use of Stereoscopy in Study of the Extremities — Sydney F. Thomas, M.D., Palo Alto.

(d) Examination of the Transverse Stomach —Stanford B. Rossiter, M.D., Menlo Park.

Discussion.

10:30—Recess.

10:40—Annual Meeting of the Pacific Roentgen Society.

ANNUAL GOLF TOURNAMENT

TUESDAY, MAY 3

(Bring your golf shoes)

San Francisco Golf and Country Club, Junipero Serra Boulevard at Alemany

Tee-Off Time, 10:30 a.m.

Complete information will be given you at the Registration Desk
along with your Convention Program

ADMISSION TO SESSIONS AND EXHIBITS BY REGISTRATION BADGE ONLY

UROLOGY

Chairman.......................Thomas I. Buckley, M.D., Oakland
Secretary.....................Wilson Stegeman, M.D., Santa Rosa
Assistant Secretary.............Edmund Crowley, M.D., Los Angeles

THOMAS I. BUCKLEY
Chairman

WILSON STEGEMAN
Secretary

SUNDAY, MAY 1

9:30—Room 404, Civic Auditorium

9:30—Urinary Retention Associated with Acute Myocardial Infarction—Joseph Kaplan, M.D., Los Angeles.
Discussion.

10:00—Combined Autogenous Vaccine Therapy of Resistant Urinary Tract Infections—Julius H. Winer, M.D., Beverly Hills.
Discussion.

10:30—Metastatic Tumors Affecting the Corpora Cavernosa—Joseph J. Kaufman, M.D., Beverly Hills.
Discussion.

11:00—Anastomosis of the Vas Deferens—Stanwood S. Schmidt, M.D., Eureka.
Discussion.

11:30—The Use of Isolated Ileal Segments to Bridge Ureteral Defects—E. Vincent Moore, M.D., Los Angeles.
Discussion.

SUNDAY, MAY 1

2:00—Room 404, Civic Auditorium

2:00—Chairman's Address — Thomas I. Buckley, M.D., Oakland.

2:30—The Diminutive Kidney—Congenital Hypoplasia and Atrophic Pyelonephritis—Charles Pierre Mathé, M.D., San Francisco.
Discussion.

3:00—Tumors and Cysts of the Urachus—Clinical Management of Six Private Patients—Robert J. Prentiss, M.D., San Diego.
Discussion.

3:30—Psychosomatic Repercussions in Urology—Edward W. Beach, M.D., Sacramento.
Discussion.

4:00—Procedures Necessary for Making Diagnosis of Hyperparathyroidism—Robert T. Plumb, M.D., San Diego.
Discussion.

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INDEX TO PARTICIPANTS

San Francisco, May 1-4, 1955

Author and City _Page_

A

Adams, Philip, _San Francisco_ 232
*Adler, Denis, _Los Angeles_ 237
*Aggeler, Paul M., _San Francisco_ 222
*Alexander, Carter M., _Covina_ 233
*Allende, Manuel F., _San Francisco_ 229
*Anderson, Bruce M., _Oakland_ 228
*Ashley, Franklin L., _Los Angeles_ 230
Attwood, C. J., _Oakland_ 237
Au, Kitman, _Los Angeles_ 237
Ayres, Samuel A., III, _Los Angeles_ 229

B

*Bailey, Philip J., _San Francisco_ 228
Baker, Charles, _Oakland_ 237
*Balfour, Donald C., Jr., _Los Angeles_ 226
Barber, L. M., _Stockton_ 236
*Barnes, L. J., _Inglewood_ 230
*Barritt, J. L., _San Francisco_ 231
*Bauer, Julius, _Los Angeles_ 223
*Beach, Edward W., _Sacramento_ 239
*Beirne, Gilbert, _San Francisco_ 229
Bennett, John C., _San Francisco_ 237
Bennett, Leslie R., _Los Angeles_ 237
Berlin, Nathaniel I., _Berkeley_ 222
*Bierman, Howard, _Duarte_ 222
*Birsner, J. W., _Bakersfield_ 237
Black, Melvin B., _San Francisco_ 237
*Bloomfield, Arthur L., _San Francisco_ 221, 222, 223, 226
*Bookman, Ralph, _Los Angeles_ 227
Bostick, Warren L., _San Francisco_ 221
Bradbury, William C., _Santa Monica_ 232
Brainerd, Henry, _San Francisco_ 221
*Bramham, James C., _Sacramento_ 234
*Breslow, Lester, _Berkeley_ 236
*Brock, William, _Stockton_ 222, 224
*Brown, Albert F., _Glendale_ 233
Bryan, John R., _San Francisco_ 237
*Buckley, Thomas I., _Oakland_ 239
Budd, John F., _Los Angeles_ 237
*Burney, L. E., _Washington, D. C._ 236

C

*Cain, Leo, _San Francisco_ 230
Calvin, George F., _Oakland_ 232
Campbell, James V., _Oakland_ 232
Carson, Merl J., _Los Angeles_ 236
*Catz, Boris, _Los Angeles_ 223
Chalek, Conrad, _Torrance_ 237
*Cheney, Garnett, _San Francisco_ 223
Clausen, Edwin, _Oakland_ 224
*Cohn, Roy B., _San Francisco_ 224
Cole, Harold A., _Pomona_ 237
Collister, John, _Pasadena_ 233
*Costolow, William E., _Los Angeles_ 238
*Cox, Alvin J., _San Francisco_ 222
*Crane, Jay J., _Los Angeles_ 231

D

*Deakins, Duane D., _Stockton_ 236
*Dignam, William J., _Los Angeles_ 232
DeFede, Anton J., _Bakersfield_ 237
Dehlinger, Klause R., _Berkeley_ 237

E

*Eliaser, Maurice, Jr., _San Francisco_ 222
*Ellis, Eugene J., _Los Angeles_ 222
Emge, Ludwig, _San Francisco_ 232
Epstein, Norman N., _San Francisco_ 229

F

Farber, Eugene M., _San Francisco_ 229
*Fasal, Paul, _San Rafael_ 229
Fielder, Charles R., _San Francisco_ 237
*Fields, Albert, _Los Angeles_ 231
Fishback, Hamilton R., _Berkeley_ 237
*Ford, Frederick R., _Berkeley_ 226
Frank, D. Edward, _Sun Valley_ 227
Freeman, Robert G., _Pasadena_ 237
Frost, David, _Alameda_ 236
*Frost, John K., _San Francisco_ 233
Fullenlove, Thomas, _San Francisco_ 238

G

*Gilfillan, Charles W., _Los Angeles_ 231
Gofman, John, _Berkeley_ 223
Goldman, Alfred, _Duarte_ 222
*Grant, William T., _Pasadena_ 237
Gregory, George, _Los Angeles_ 224
Grimes, Orville F., _San Francisco_ 224
*Grow, Kenneth, _Beverly Hills_ 230
*Gunther, Lewis, _Beverly Hills_ 222

H

*Haley, Thomas J., _Los Angeles_ 231
*Hall, Byron E., _San Francisco_ 222
*Hall, Robert A., _Agnew_ 235
*Halsted, James A., _Los Angeles_ 223
*Hanbery, John W., _San Francisco_ 234
Hanley, B. J., _Los Angeles_ 232
Harder, Herbert I., _Glendale_ 233
*Harris, M. Coleman, _San Francisco_ 227
*Hartman, Milton M., _San Francisco_ 227
*Hayman, Max, _Beverly Hills_ 235
*Hewitt, Donald W., _Los Angeles_ 226
Hewitt, William L., _Los Angeles_ 221
Hoffman, Ralph L., _San Diego_ 232
Hollister, Arthur B., Jr., _Berkeley_ 236
*Hollister, Clinton B., _Santa Barbara_ 236
Hoyt, Robert, _San Francisco_ 237
*Hurwitz, Samuel H., _San Francisco_ 227

J

*Jaffe, Henry L., _Los Angeles_ 238
Jampolsky, Arthur, _San Francisco_ 230
Joergenson, Eugene J., _Los Angeles_ 225
*Johnston, Paul M., _Long Beach_ 225
*Johnstone, R. T., _Los Angeles_ 231
*Jones, F. Avery, _London, England_ 221, 222, 223
*Jones, Laurence, _Beverly Hills_ 231
*Jones, S. Austin, _Los Angeles_ 224

K

*Kabat, Herman, _San Francisco_ 235
*Kaplan, Joseph, _Los Angeles_ 239
*Karr, Norman W., _Los Angeles_ 227
*Kaufman, Joseph J., _Beverly Hills_ 239
*Kempe, C. Henry, _San Francisco_ 236
Kennamer, Rexford, _Beverly Hills_ 222

---

* = Senior Author

Author and City Page
Kennedy, Lucile, *Sacramento* 232
*Kilroy, Dan O., *Sacramento* 231
*Klinghoffer, Kalmen A., *San Francisco* 223
*Kuzell, William C., *San Francisco* 223

L

Lamson, Baldwin G., *Los Angeles* 237
*Lawrence, John H., *Berkeley* 222
*Lawson, Lucie, *San Francisco* 230
Lee, Jennie, *San Francisco* 223
Leeper, Roy W., *Oakland* 229
*Leffingwell, Forrest E., *Pasadena* 228
Lennette, Edwin H., *Berkeley* 221
*Levan, Norman E., *Bakersfield* 229
*Levin, Edward A., *San Francisco* 229
*Levy, S. William, *San Francisco* 229
Lichtenstein, Louis, *Los Angeles* 237
*Lindsay, John R., *Chicago, Ill.* 221, 230
*Longmire, William P., Jr., *Los Angeles* 224
*Luck, J. Vernon, *Los Angeles* 231
Luzzatti, Luigi, *San Francisco* 236
*Lyon, Thomas P., *San Jose* 223

M

*MacLaren, Walter R., *Pasadena* 227
Madden, Sidney C., *Los Angeles* 221
*Malcolm, James C., *San Leandro* 236
*Malimud, Nathan, *San Francisco* 235
*Margen, Sheldon, *Berkeley* 236
*Marmelzat, Willard L., *Los Angeles* 229
*Marshall, Harold K., *Glendale* 232
*Massumi, Rachid A., *Los Angeles* 222
*Mathé, Charles Pierre, *San Francisco* 239
*McNeil, Robert J., *Los Angeles* 231
*Michael, Paul, *Oakland* 233
*Millzner, Ray J., *San Francisco* 226
Minard, Eugene W., *Stockton* 236
*Moe, Allen E., *Sacramento* 226
Mooney, H. William, *Berkeley* 236
*Moore, E. Vincent, *Los Angeles* 239
Moffitt, Herbert C., Jr., *San Francisco* 221
Morrison, Arlo A., *Ventura* 221
*Motto, Rocco, *Los Angeles* 234

N

*Nemethi, Carl E., *Los Angeles* 231
Nolan, Lewis E., *Sacramento* 237

O

Oliver, Wrenshall A., *Imola* 235

P

Pait, Charles F., Jr., *Los Angeles* 236
*Palmer, Richard J., *San Francisco* 235
Parsons, Robert J., *Oakland* 237
Pennington, J. A., *Sacramento* 237
Perdue, Thomas R., *San Leandro* 236
*Perelson, Harold N., *Los Angeles* 227
*Perry, Mode R., *Los Angeles* 234
*Peterson, Harvey, *Oakland* 224
*Plumb, Robert T., *San Diego* 239
*Prentiss, Robert J., *San Diego* 239
Prinzmetal, Myron, *Beverly Hills* 222

R

*Rabwin, Marcus H., *Beverly Hills* 224
Rakita, Louis, *Los Angeles* 222
*Rapaport, Walter, *Sacramento* 235
*Rasmussen, A. F., Jr., *Los Angeles* 236
*Rattner, Herbert, *Chicago, Ill.* 221, 229

Author and City Page
Rees, Rees B., *San Francisco* 229
Richardson, James, *Oakland* 237
*Rider, Joseph A., *San Francisco* 223
Rogers, Walter C., *Pasadena* 232
*Rossiter, Stanford B., *Menlo Park* 237, 238
*Rothman, Theodore, *Beverly Hills* 235
*Rubin, Henry J., *Beverly Hills* 234
*Rumsey, John, *San Diego* 226

S

*Samuels, Arthur J., *Duarte* 222
*Schmidt, Stanwood S., *Eureka* 239
Schwartz, L., *Los Angeles* 222
*Seletz, Emil, *Beverly Hills* 235
*Seletz, Rachelle, *Beverly Hills* 232
*Senz, Edward H., *San Francisco* 234
Shaw, Edward B., *San Francisco* 236
*Sherman, Allen H., *San Francisco* 230
*Shirley, Hale, *San Francisco* 230
*Shure, Norman, *Los Angeles* 227
Simon, Alexander, *San Francisco* 235
*Skaggs, Marshall L., *Sacramento* 228
*Smith, Gordon K., *Los Angeles* 225
Smith, Judith D., *San Francisco* 227
Smith, Louis L., *Los Angeles* 224
*Smith, Nathan J., *Los Angeles* 234
*Spaet, Theodore H., *San Francisco* 234
*Stafford, C. E., *Los Angeles* 225
Stein, Justin J., *Los Angeles* 237
Steinbach, Howard L., *San Francisco* 237
Stilson, W. L., *Los Angeles* 237
*Sturgeon, Philip, *Los Angeles* 234
*Swartz, Curtis H., *San Diego* 228

T

*Tavris, H. V., *Whittier* 235
*Thomas, Sydney F., *Palo Alto* 237, 238
*Thomas, Wilbur C., *Los Angeles* 234, 237
*Thompson, George N., *Los Angeles* 235
Thompson, William Benbow, *Los Angeles* 232
*Totten, Harold P., *Inglewood* 225
Tucker, Dan, *Oakland* 237
*Tuschka, Otto, *Fresno* 224

V

Van Der Reis, Leo, *San Francisco* 223

W

*Wallerstein, Ralph O., *San Francisco* 222, 234
Waxler, Samuel H., *San Francisco* 223
*Wayburn, Edgar, *San Francisco* 222, 223
*Welch, Claude E., *Boston, Mass.* 221, 223, 224
*Weirick, William, *San Francisco* 224
*Wilbur, Dwight L., *San Francisco* 221, 226
*Williams, A. Justin, *San Francisco* 238
Williams, Gordon F., *Stanford* 234
*Wilson, Roger H. L., *San Francisco* 227
*Winer, Julius H., *Beverly Hills* 239
Winquist, Paul C., *Berkeley* 237
Wisdom, William R., *Los Angeles* 238
Wood, David A., *San Francisco* 233
*Woodruff, John H., *Huntington Park* 237
*Woodward, Theodore E., *Baltimore, Md.* 221, 223
Wycoff, Charles C., *San Francisco* 228

Y

Yankley, Alexander, *San Jose* 223

Z

*Ziskind, Eugene, *Los Angeles* 227
Zundell, J. La Monte, *San Francisco* 237

Scientific Exhibits

Civic Auditorium

Industrial Rehabilitation—Slides showing treatment procedures and statistics of industrial rehabilitation. Herbert C. Moffitt, M.D., and Hilliard J. Katz, M.D., San Francisco.

Correlation Studies of Whole Lung Sections with Corresponding X-Rays—Material obtained at autopsy and surgery. J. A. Arcellana, M.D., E. J. Shabart, M.D., and Paul C. Tsapralis, M.D., Livermore.

Medical and Surgical Treatment of Cryptorchidism—Charts, posters, drawings and x-rays. Robert J. Prentiss, M.D., Ralph B. Mullenix, M.D., James M. Whisenand, M.D., and Michael J. Feeney, M.D., San Diego.

The Natural History of Untreated Strawberry Hemangiomas—A few selected series of enlarged color transparencies showing typical development and spontaneous regression of these untreated nevi. Alvin H. Jacobs, M.D., San Francisco.

The Treatment of the Nervous Patient in General Practice—Introduction of Plexonal® as a mild sedative, and its help in the treatment of the nervous patient. Walter Z. Baro, M.D., Azusa.

The Stasis Syndrome—Pathologic physiology of the stasis syndrome: cutaneous changes such as stasis pigmentation dermatitis, sclerosis and ulcer. Eugene M. Farber, M.D., and Virginia R. Barnes, M.D., San Francisco.

Emotionally Disturbed Children—Outline of private services available for emotionally disturbed children. Elizabeth Rees, M.D., Berkeley.

Reserpine (Serpasil®) in the Management of the Mentally Ill—Case histories and charts showing how Reserpine has benefited more than 300 patients in the last eighteen months. Robert H. Noce, M.D., Modesto.

Upper Extremity Braces and Prostheses — Photos, charts, posters, drawings, splints, braces, prostheses, and component parts of upper extremity prostheses. O. Leonard Huddleston, M.D., Santa Monica.

Histology and Mechanics of the Scalp—Drawings showing traction of muscles upon galea aponeurotica, stereograms of bald and hairy scalps; also showing of unique tangential sections of scalps showing arrangement of collagen fibers. Adolph Brown, M.D., Beverly Hills, and Mr. Hans Elias, Chicago.

Common Tumors of the Neck in Adults—Graphic pictorial representation of the diagnosis and treatment of tumors of the neck. John D. Briggs, M.D., Claude S. Mumma, M.D., Mario J. Acquarelli, M.D., and Richard H. Hood, M.D., Los Angeles.

Management of Gastric Ulcer—Charts showing principles and plan of management; x-rays, photographs and case histories illustrating results of management technique. David C. Fainer, M.D., William H. Bachrach, M.D., Leo Kaplan, M.D., James G. Davis, M.D., Mary B. Stark, Ph.D., and E. R. Rowen, M.D., Los Angeles.

Organizational Exhibits

C.M.A. Public Relations Department

C.M.A. Blood Bank Commission

C.M.A. Committee on Postgraduate Activities

U. S. Food and Drug Administration

California Physicians' Service

Audio-Digest Foundation

California League for Nursing

Los Angeles Physicians' Aid Association

San Francisco Heart Association

American Cancer Society

Northern California Chapter, Physical Therapy Association

Allergy Foundation of Northern California

Motion Picture Program

Arthur E. Smith, M.D., D.D.S., Los Angeles, Chairman

Larkin Hall, Civic Auditorium

A carefully selected showing of approximately 100 medical motion pictures will be held in Larkin Hall, Civic Auditorium, during all or part of each day of the meeting.

A full schedule showing the times and titles of each film will appear in the program distributed at the annual session.

WOMAN'S AUXILIARY *to the* CALIFORNIA MEDICAL ASSOCIATION

Twenty-Fifth Annual Convention, May 1 to 3, 1955

Headquarters: Sheraton-Palace Hotel, San Francisco

MRS. FREDERICK J. MILLER, President

MRS. MATTHEW N. HOSMER, President-elect

Convention Chairman: MRS. T. EDWARD BAILLY, JR.

REGISTRATION

Sunday, May 1—9:00 a.m. to 12:00 noon
1:00 p.m. to 4:00 p.m.

Monday, May 2—8:30 a.m. to 12:00 noon
1:00 p.m. to 4:00 p.m.

Tuesday, May 3—8:30 a.m. to 12:00 noon

SUNDAY, MAY 1

8:00 a.m.—Executive Committee Breakfast Meeting, Room 2051, Sheraton-Palace Hotel.

9:30 a.m.—Annual Report of the Woman's Auxiliary by the President, Mrs. Frederick J. Miller, to the California Medical Association, House of Delegates, Ballroom, Sheraton-Palace Hotel. Auxiliary members and doctors' wives are invited to attend.

10:30 a.m.—Pre-Convention Board Meeting, Comstock Room, Sheraton-Palace Hotel.

5:00 to 7:00 p.m.—Reception honoring Mrs. Arlo A. Morrison, wife of the President of the California Medical Association, Rose Room of the Sheraton-Palace Hotel. All doctors and their wives are cordially invited.

MONDAY, MAY 2

9:00 a.m.—Formal opening of the Twenty-fifth Annual Meeting of the Woman's Auxiliary to the California Medical Association, Rose Room, Sheraton-Palace Hotel. Mrs. Frederick J. Miller, President, presiding.

2:15 to 4:15 p.m.—Afternoon meeting, Rose Room.

8:00 p.m.—Dinner and ball in honor of the California Medical Association President, Dr. Arlo A. Morrison, Garden Court, Sheraton-Palace Hotel. Formal dress optional.

TUESDAY, MAY 3

9:00 a.m.—General Meeting of the Woman's Auxiliary to the California Medical Association, Concert Room, Sheraton-Palace Hotel. Mrs. Frederick J. Miller, President, presiding.

12:30 p.m.—Annual Luncheon in honor of Mrs. Frederick J. Miller, Mrs. Matthew N. Hosmer, Past State Presidents and Members of the State Advisory Board, Rose Room, Sheraton-Palace Hotel.

3:00 p.m.—Post-Convention Board Meeting, Room 2018-20, Sheraton-Palace Hotel. Mrs. Matthew N. Hosmer, presiding.

Technical Exhibits

All members and guests at the 1955 Annual Session are cordially invited to visit the technical exhibits. These will be located in the main arena of the San Francisco Civic Auditorium.

The exhibitors will have on display the latest developments in products and services for the physician. Experienced representatives will be on hand at all times to answer your questions and to give you full information on the material displayed. Your time spent in the exhibits will be well rewarded; in addition, your visiting with exhibitors will indicate to them your appreciation of their support of the Annual Session, a cooperation which makes possible the scope and variety of the meeting.

Fortunately, for the 1955 meeting, it has been possible to place all exhibits in one main area, with scientific meeting rooms on either side. This arrangement will make visits with the exhibitors extremely convenient and will permit you to take in those exhibits which interest you without losing time coming and going from one exhibit area to another meeting place.

It is hoped that all physicians at the meeting will take this opportunity to show their good will to the exhibitors by calling at their booths and registering their presence.

Booth No.

ABBOTT LABORATORIES #82

North Chicago, Illinois

The potency of Abbott's new IBEROL filmtab, for iron-deficiency, nutritional and pernicious anemias, is dramatically presented in a new display, to be seen at this meeting. It shows that the daily dose of two filmtabs presents *three* ferrous sulfate tablets, *two* vitamin B_{12} with intrinsic factor tablets, *one* B-complex tablet, *one* liver fraction capsule and three ascorbic acid tablets.

What's the size of an IBEROL filmtab? Actually, smaller than a dime.

A. S. ALOE COMPANY #2

St. Louis, Missouri

We will feature products of our own furniture factory, with modern styling and attractively priced by manufacturer direct to consumer. Also, many other domestic and imported specialties which we believe will prove interesting to all.

AMERICAN FERMENT CO., Inc. #61

New York, New York

Representatives at the booth will welcome the opportunity to demonstrate the proteolytic and mucosolvent action of the enzyme, Caroid, and to discuss Caroid and Bile Salts Tablets and Alcaroid Antacid. Supligol. a whole-bile ketocholanic acid compound useful in the management of biliary dysfunction, will also be featured.

AMES COMPANY, Inc. #73

Elkhart, Indiana

New uses for DECHOLIN as adjunctive therapy in treatment of hepatabiliary disorders will be described. Remarkable hydrocholeretic action of DECHOLIN improves liver function and reduces patient recovery time.

DECHOLIN/Belladonna will also be shown.

CLINITEST, for urine-sugar analysis, is standardized. This assures uniformly reliable results whenever and wherever a test is performed—office, ward, clinic, or patient's home.

ACETEST for acetonuria, BUMINTEST for albuminuria, HEMATEST for occult blood, and ICTOTEST for bilirubin will also be on display.

Booth No.

THE ARMOUR LABORATORIES #93

Kankakee, Illinois

The Armour Laboratories booth will feature H. P. Acthar Gel as well as other specialties of Armour Research. Our representatives will be happy to answer questions about Armour products for anyone who cares to stop at our booth.

AYERST LABORATORIES #63

New York, New York

Physicians attending the California Medical Association Annual Session are cordially invited to visit the Ayerst booth where information and literature will be available on "Premarin," "Antabuse," "Trilene" and other Ayerst specialties.

BABY DEVELOPMENT CLINIC #37

Chicago, Illinois

Maternity Counselling Service offers: 1. Demonstration material for teaching expectant mothers and fathers the physical and emotional aspects of parent-child relationships arising out of daily care in feeding; bathing; sleeping and toileting. 2. Examples of new and approved products for comfort of mother and care of baby.

THE BAKER LABORATORIES, Inc. #32

Cleveland, Ohio

You are invited to visit our booth where Baker's Modified Milk and Varamel. two successful products for infant feeding, are on display.

Baker representatives will be glad to discuss the practical application of Grade A milk, adjusted fat composition, zero curd tension, synthetic vitamins and other important factors which help to eliminate many of the problems in modern infant feeding.

BARNES-HIND LABORATORIES, Inc. #111

San Francisco

The most recent advances in the field of nutritional therapy have been incorporated into the three new Probolic formulae. which represent the most complete and potent vitamin-mineral preparations available.

PROBOLIC is intended for vitamin-mineral therapy at all age-levels (ideal for geriatric use). The formulation provides for flexibility of dosage from prophylactic to therapeutic levels.

PROBOLIC OB is a phosphorus-free formulation for use in pregnancy and lactation and provides the desirable form of calcium (calcium lactate), the well-tolerated iron salt (ferrous gluconate), as well as significant quantities of all vitamins and minerals (including 150 mg. of ascorbic acid and 10 mg. pyridoxine per daily dose).

PROBOLIC OB WITH THYROID contains, in addition to the above, one grain of thyroid in each four tablets (average daily dose). When the physician desires that the patient take thyroid in addition to the vitamins and minerals, Probolic OB with Thyroid offers both economy and convenience.

Literature and samples of the three PROBOLIC formulae are available at the Barnes-Hind booth, where we shall be happy to discuss our products with you.

TRANQUINAL, "still the best daytime sedative—" will also be displayed at the Barnes-Hind booth. If you are not now prescribing TRANQUINAL, may we invite you to visit our booth where literature and samples are available. Representatives will be happy to discuss the advantages of "true sedation without hypnosis" in your practice.

BARNES MEDICAL ARTS #96

Berkeley

The MEDCOLATOR STIMULATOR for the stimulation of innervated muscle or muscle groups ancillary to treatment by massage, is a low voltage generator which will generate plenty of your interest. Electrical muscle stimulation is a valuable form of rehabilitation therapy. You will be particularly interested in the automatic muscle flexion and extension feature. You will also wish to note the ease and comfort in which all muscles are exercised. Be sure to visit our booth for a personal demonstration.

DON BAXTER, Inc. #11

Glendale

A convenient, timesaving, disposable enema unit will be featured at the Don Baxter, Inc. booth. The Baxter enema consists of just four ounces of evacuant solution in a flexible, plastic container with an integral dispensing tube. Sharing the limelight will be CALORIGEN 1500, the well-tolerated, high-calorie tubal nutrient for nasogastric feeding, and the complete line of intravenous solutions in the VACOLITER container including ISOLYTE, KADALEX, and HYPROTIGEN. New, all-plastic tubes and administration sets will also be available for your inspection.

BEECH-NUT PACKING COMPANY #31

Canajoharie, New York

The four Beech-Nut Cereals are now available in California. The four-ounce "flavor fresh" box, with the easy pouring spout which has been so enthusiastically received in the east is now being distributed on the West Coast. Doctors and mothers as well, like the small size box for variety—economy and convenience.

Stop at the Beech-Nut booth and discuss these cereals especially CORN CEREAL with the nutritionists in attendance.

THE BORDEN COMPANY #115

New York, New York

There's no better place to talk over the latest information on infant feeding than the Borden Prescription Products booth. On display is the complete line of Borden infant formula products for every feeding purpose or preference. If you're encountering hyperirritability or excoriation, you'll be interested in Bremil, a formula patterned upon breast milk. If you suspect milk allergy in some of your patients, you'll find the answer in either Liquid or Powdered Mull-Soy, leading hypoallergenic food. For prematures, or for digestive disturbances demanding low fat and high protein, Dryco provides an ideal, flexible formula base. And if your preference is for liquid products, you'll want the latest facts about Biolac.

THE BORDEN FOOD PRODUCTS COMPANY #91

San Francisco

The first EVAPORATED MILK to be accepted by the Council on Foods and Nutrition of the American Medical Association. On February 6, 1930, soon after its organization, the Council awarded its Seal of Acceptance to BORDEN'S EVAPORATED MILK—the first to be so recognized. Foremost in quality since 1892. More hospitals than ever use BORDEN'S EVAPORATED MILK.

Borden's nonfat dry milk—INSTANT STARLAC—high in protein (36½%) and fat free. A creamy white powder produced from high quality fresh milk. Instant Starlac (powder) provides approximately eleven times the food value of fluid skim milk. Flexible—Palatable—Reasonable.

BOYLE & COMPANY #15

Los Angeles

Boyle & Company will feature Triva, the 12 day treatment for vaginitis; Boyle Pre-Natal and Obnatal for the pregnant patient; Opidice, an aid in the management of obesity; and Pento-Del, the tandem action sedative.

BURROUGHS WELLCOME & CO. (U.S.A.) Inc. #58

Tuckahoe, New York

'NEOSPORIN' brand Polymyxin B—Bacitracin-Neomycin—ANTIBIOTIC OINTMENT—wherever there is topical bacterial infection.

'MAREZINE' Hydrochloride brand Cyclizine Hydrochloride Controls:—Nausea and vomiting of pregnancy, motion sickness and vertigo.

Syrup of 'ANTEPAR' Citrate brand Piperazine Citrate—To eradicate pinworms and roundworms, pleasant to take, quickly effective.

BUSH ELECTRIC COMPANY #9

San Francisco

This exhibit will provide the California physician an opportunity to inspect the latest in diagnostic x-ray apparatus for routine office examination and the most modern modalities in the field of Physical Medicine including the new Burdick Ultra-Sound Generator and Microtherm diathermy. A visit to the Bush Electric booth will prove most informative to the physician with the realization of providing a complete armamentarium for diagnosis and treatment in his own office.

CAMEL CIGARETTES #21

Winston-Salem, North Carolina

See write-up under R. J. Reynolds Company.

CAMERON SURGICAL SPECIALTY COMPANY #77

Chicago, Illinois

See the Cameron Cauteradio and Cauterodynes for both office and hospital use incorporating Cauterization, Coagulation, Fulguration, Desiccation, Dehydration and orificial Ultra-Violet radiation, also new Biopsy Punch combining coagulation; Electro-Diagnostic Lamp and Instrument Outfits; the improved Omniangle Gastroscope; the Boros Flexible Esophagoscope; Coagulair and Dualite Sigmoidoscopes; Tele-Vaginalite; Mirrolite and other Headlites; Retractors and many other instruments for general and special diagnosis, treatment and surgery.

S. H. CAMP & COMPANY #109

Jackson, Michigan

S. H. CAMP & COMPANY (Booth #109) will display the latest developments in scientifically designed supports, incorporating the "Magic-Web" adjustment. See the new improved models for orthopedic conditions—including Plastic Braces, new lightweight prenatal garments, the Lewin Cotton Collar, Camp-Varco-Traction Belt, Head Halter Traction Kit and the Anderson Traction Legging. Investigate how Camp Supports can best meet your exacting requirements with comfort for your patients. Experts from the Camp staff will be on hand to answer your questions.

CANRIGHT COMPANY, Inc. #20

Glendale

You will find up-to-date prescription specialty formulas displayed—and courteous, informed personnel to discuss them with you.

CHICAGO PHARMACAL COMPANY #38

Chicago, Illinois

A cordial invitation is issued to all physicians to visit the Chicago Pharmacal exhibit. Representatives in daily attendance will be pleased to discuss the various CHIMEDIC products.

CHICAGO REFERENCE BOOK CO. #13

Chicago, Illinois

Webster's New International Dictionary, Second Edition, with Reference History. The "Supreme Authority" embracing every field of endeavor. The all-purpose reference book for home, office and school—equal to a 20-volume encyclopedia in content matter. May be purchased on a budget plan—or for cash.

CIBA PHARMACEUTICAL PRODUCTS, Inc. #27

Summit, New Jersey

The CIBA exhibit will feature SERPASIL, a pure crystalline alkaloid of Rauwolfia possessing the essential antihypertensive actions of the whole root. SERPASIL offers mild, gradual, sustained lowering of blood pressure with a slowing of the heart rate; a tranquilizing effect beneficial in most cases of hypertension; and unvarying potency.

THE COCA-COLA COMPANY "A"

Atlanta, Georgia

Ice cold Coca-Cola served through the courtesy and cooperation of the Coca-Cola Bottling Co. of San Francisco and The Coca-Cola Company, for the "Pause that Refreshes."

CUTTER LABORATORIES #16

Berkeley

Cutter Laboratories, Booth #16, pioneer in pediatric immunization, will display Dip-Pert-Tet "Alhydrox" absorbed toxoids and combined vaccines, which are highly purified and in one-half cc dosage form. We will also feature human blood fractions—Hypertussis, Polio Immune Globulin, Albumin and Parenogen. Cutter allergy products and Cutter Undesilin, in both ointment and powder forms, will also be on display.

The exhibit will show Cutter Saftiflask Solutions, featuring the Saftitab stopper, "Bend-the-Blue" Safticlamp, which is standard on intravenous and expendable infusion equipment.

DARWIN LABORATORIES #41

New York, New York

LIPO-HEPIN (Sodium Heparin USP), in concentrations of 200, 100, 50 and 10 mgs. per cc., offering practical and economical usage for anticoagulant and fat-clearing therapy.

ADRENALEX (Adrenal Cortex Extract), biologically standardized, in aqueous and oil injectable solution and oil center oral capsules. For use in all hypo-adrenal conditions.

TRYPTO-PLEX (Trypsin) solution and salve for proteolytic digestion of topical lesions and necrotic tissues.

DESITIN CHEMICAL COMPANY #99

Providence, Rhode Island

DESITIN OINTMENT: The pioneer in external cod liver oil therapy. Indications: diaper rash, slow healing wounds, burns of all degrees, lacerations, hemorrhoids and fissures.

DESITIN POWDER: A unique, dainty medicinal powder saturated with cod liver oil.

DESITIN HEMORRHOIDAL SUPPOSITORIES with COD LIVER OIL: Coats ano-rectal area with soothing, lubricating cod liver oil, gives prompt relief of pain, allays itching.

DESITIN LOTION: The original cod liver oil lotion, soothing, protective, mildly astringent and healing, in nonspecific dermatitis, pruritis, poison ivy, etc.

DEVEREUX SCHOOLS #69

Devon, Pennsylvania

Examples of student craft projects and large color photos of the two Santa Barbara campuses are featured in the Devereux Ranch Schools exhibit.

Since 1912 the Devereux Schools have been a resource for California physicians whose child-patients required educational training with psychotherapy. Emotionally unstable, socially maladjusted or slow learning children who are failing to adjust well in their own communities may progress better in a therapeutically controlled boarding school setting.

THE DIETENE COMPANY #70

Minneapolis, Minnesota

Have YOU tasted MERITENE . . . the whole protein supplement that DOES taste good? Visit our booth, enjoy a Meritene Milk Shake with its multiple nutritive values.

Ask, too, about SAFE WEIGHT REDUCTION with the Dietene Diet (Based on DIETENE the only AMA "Council-Accepted" Reducing Supplement).

Booth No.

DOHO CHEMICAL CORPORATION #4

New York, New York

Doho Chemical Corporation is pleased to exhibit: Auralgan, the ear medication for the relief of pain in Otitis Media and removal of Cerumen; New Otosmosan, the effective, non-toxic ear medication which is Fungicidal and Bactericidal (gram negative-gram positive) in the suppurative and aural dermatomycotic ears; Rhinalgan, the nasal decongestant which is free from systemic or circulatory effect and equally safe to use on infants as well as the aged.

Mallon Chemical Corporation, Subsidiary of the Doho Chemical Corporation, is also featuring: Rectalgan, the liquid topical anesthesia, also for relief of pain and discomfiture in hemorrhoids, pruritus and perineal suturing.

EATON LABORATORIES #76

Norwich, New York

For prompt results in urinary tract infections, Furadantin is now available in the form of tablets and as Furadantin Oral Suspension N.N.R. Within 30 minutes after ingestion of this drug, the urine becomes strongly antibacterial.

Dosage forms of Furacin of special interest include Furacin Soluble Powder for painless application to wounds and burns, Furacin Nasal with or without a vasoconstrictor for rhinitis and sinusitis, Furacin Ophthalmic Liquid and Ointment for conjunctivitis and prevention of infection following ocular trauma and Furacin Vaginal Suppositories for treatment of cervicitis and vaginitis and as an adjunct in cervicovaginal surgery.

ENCYCLOPAEDIA BRITANNICA, Inc. #103

Chicago, Illinois

Encyclopaedia Britannica's 186-year history has been possible mainly because of two factors . . . Its authoritative facts and knowledge presented by the world's greatest minds, and its ability to keep abreast with new developments in every field of information. The 1954 Edition of Britannica is an outstanding example of how our editorial staff and noted contributors keep pace with the constant changes in every phase of human endeavor. Their efforts make Britannica the leading reference work, with a glorious past, yet always looking to the future.

An edition that makes the world's *greatest* reference work even *greater.*

ENCYCLOPEDIA AMERICANA #14

Beverly Hills

The Americana Corporation proudly presents the greatest of all Americana Encyclopedias. Since 1949 three-fourths of the Americana text has been *completely revised and reset.* Thousands of new illustrations, the 1950 official census figures and new maps have been added, plus, over 300 new articles on American and Canadian cities never before in the set. Complete with year book and research privileges to keep its owners fully up to date. This new edition carries highest rating with our public schools, universities, colleges, libraries, government offices and better homes. Convenient terms if desired. Without any obligation we cordially invite your inspection.

Booth No.

ENDO PRODUCTS, Inc. #46

Richmond Hill, New York

Our representatives will be very happy to greet our many friends of the medical profession, and discuss Hycodan, the antitussive of choice, Cumertilin Tablets and injectable, the new mercurial diuretic which has a high safety factor in oral dosage.

CHARLES O. FINLEY & CO. #6

Los Angeles

Representatives of Charles O. Finley & Co., administrators of the California Medical Association group disability insurance program, will be on hand to describe the program to eligible members and to answer your questions. You are invited to come in, sit down and relax.

C. B. FLEET CO., Inc. #114

Lynchburg, Virginia

During the past fifty years Phospho-Soda (Fleet) has been a symbol of elegance in sodium phosphate medication. Fleet Enema Disposable Unit—an enema solution of Phospho-Soda (Fleet)—is a worthy companion product. The single use unit simplifies and assures satisfying preparation for proctoscopy and as a routine enema it is a boon to the hospitalized patient.

FOREMOST DAIRIES #42

San Francisco

Foremost Dairies takes pleasure in presenting Foremost Fresh Tasting Evaporated Milk made by an exclusive new fresh process. Our Director of Consumer Services will be on hand to answer any questions you may have and to offer samples of the newest thing in canned milk.

FREEMAN MANUFACTURING COMPANY #64

Sturgis, Michigan

For more than sixty years Freeman has been engaged in making surgical supports and elastic hose. During that time we have worked closely with members of the medical profession. Their assistance has proved invaluable in enabling us to maintain the highest standards of quality and design.

We particularly invite your inspection of our complete line of orthopedic supports being exhibited at the show.

THE ROLAND J. GAUPEL CO. #110

Los Angeles

Featuring the Pur Air units along with demonstration on how activated carbon removes odors and irritants from the air. We will also show our regular line of x-ray accessories.

GEIGY PHARMACEUTICALS #7

New York, New York

Geigy will feature Council Accepted Butazolidin, oral nonhormonal antiarthritic, and Tromexan, oral anticoagulant of rapid action, little cumulation and diminished risk of sustained or severe hemorrhage. Also on display will be Eurax Cream and Lotion, antipruritic and scabicide, and Sterosan Cream and Ointment, bacteriostatic and fungistatic for treatment of pyogenic and mycotic skin disorders.

GENERAL ELECTRIC COMPANY #24

Milwaukee, Wisconsin

The latest in modern x-ray equipment will be on display at the annual meeting of the California Medical Association. The Electrocardiograph, as well as short wave diathermy equipment, will also be demonstrated.

GERBER PRODUCTS COMPANY #107

Fremont, Michigan

WHEN MILK IS CONTRAINDICATED as the basic food for infants, Gerber's "Meat Base Formula" can provide a nutritionally adequate replacement. It is well accepted and tolerated by infants of all ages. Your Gerber detailman invites you to evaluate "Meat Base Formula" and the complete line of supplementary baby foods.

You are also invited to review new editions of Gerber's baby care and adult special diet booklets. Each is designed especially for distribution by physicians. Each provides non-controversial information in simple, easy-to-understand language. The service is complimentary.

H. J. HEINZ COMPANY #92

Pittsburgh, Pennsylvania

Heinz Strained Meats—first in glass jars—have been readily accepted by the medical profession and mothers alike.

Now, Junior Meats have been added and the Heinz line of baby foods, including the other strained and junior items, orange juice and cereals, totals over 60 varieties.

Babies, young children and those elderly folks requiring soft diets may have a wide selection from the very nourishing foods.

See our booth and the literature which is available for physicians and patients.

HOFFMAN-LA ROCHE, Inc. #97

Nutley, New Jersey

You will find three products of special interest to the surgeon featured in the Roche display: the synthetic narcotic, LEVO-DROMORAN for relief of severe pain; the soluble, sulfonamide GANTRISIN for antibacterial action and the new chemical compound ILIDAR which is particularly valuable in vasospasm and related peripheral vascular disorders.

HOLLAND-RANTOS COMPANY, Inc. #65

New York, New York

Physicians interested in Medical Contraception are cordially invited to discuss with H-R convention representatives the latest information on laboratory and clinical data concerning the efficacy of KOROMEX products. On display also will be the trichomonicidal, fungicidal and bactericidal preparations NYLMERATE JELLY and NYLMERATE SOLUTION CONCENTRATE for effective, low cost, conveniently-used therapy in vaginitis due to infestation by a wide spectrum of causative microorganisms.

IRWIN, NEISLER & COMPANY #60

Decatur, Illinois

JACKSON-MITCHELL PHARMACEUTICALS, Inc. #44

Culver City

On display Meyenberg Evaporated Goat Milk, the original prescription quality Goat Milk, and HI-PRO, their high protein, low fat, modified powdered cow's milk. Delicious ice cold Goat Milk is being served. Jackson-Mitchell representatives have some reprints of new papers on the use of Goat Milk in allergic states.

LEDERLE LABORATORIES #68

New York, New York

You are cordially invited to visit our exhibit in booth #68 where you will find our representative prepared to give you the latest information on LEDERLE products.

LIEBEL-FLARSHEIM CO. #116

Oakland

The Liebel-Flarsheim Company cordially invites you to visit booth #116, in which their latest electromedical and electrosurgical apparatus will be available for examination and demonstration. Capable representatives will be on hand at all times and we sincerely hope you will stop by so that we may become acquainted.

ELI LILLY AND COMPANY #66 and 67

Indianapolis, Indiana

You are cordially invited to visit the Lilly exhibit located in booths #66 and 67. The display will contain information on recent therapeutic developments. Lilly sales people will be in attendance. They welcome your questions about Lilly products.

J. B. LIPPINCOTT COMPANY #52

Philadelphia, Pennsylvania

J. B. Lippincott Company presents, for your approval, a display of professional books and journals geared to the latest and most important trends in current medicine and surgery. These publications, written and edited by men active in clinical fields and teaching, are a continuation of more than 100 years of traditionally significant publishing.

LLOYD BROTHERS, Inc. #79

Cincinnati, Ohio

RONCOVITE, the original therapeutic level cobalt product, will be featured at this exhibit. Reprints of the vast clinical background proving both efficacy and safety of cobalt-iron therapy will be available for distribution, and competent representatives will be on hand to discuss this totally new therapy in the treatment of anemia.

LOMA LINDA FOOD COMPANY #98

Arlington

As an aid in solving many feeding problems, especially those related to allergy, the new Soyalac Infant Food will be of particular interest. Attendants at the booth will be happy to discuss the uses of this hypo-allergenic food in infant, child and adult special diets. A sample of flavorful Soyalac will be served at the exhibit.

P. LORILLARD COMPANY #47

New York, New York

P. Lorillard Company, manufacturers of OLD GOLD Cigarettes as well as BRIGGS Pipe Mixture and other famous tobacco products will exhibit and demonstrate their KENT CIGARETTES with the exclusive Micronite Filter.

Booth No.

LOV-É BRASSIERE COMPANY #40

Hollywood

Lov-e Brassiere Company invites you to view their complete line of custom-fitted brassieres, available in a range of 18 models and more than 500 size variations. These Lov-e models have been designed for specific breast conditions and are individually fitted by trained corsetieres in exact accordance with prescription instructions. Special brassierés for pre-natal, post-partum, atrophic, hypertrophic and mastectomy. Lov-e Corrective brassieres are available in leading department stores and corset shops throughout the West. Our representative will be very happy to answer your questions.

M & R LABORATORIES #80

Columbus, Ohio

Your Similac representatives are happy to take part in this meeting. They are pleased to have the opportunity to discuss with you the role of Similac in infant feeding. They have for you the latest Pediatric Research Conference Reports. Also available are current reprints of pediatric nutritional interest.

MAICO INSTRUMENT COMPANY #17

San Francisco

MALTBIE LABORATORIES #104

Belleview, New Jersey

MARLYN CO. Inc. #62

Los Angeles

Marlyn Co. Inc. takes pleasure in inviting you to visit Booth #62, where Hep-Forte will be the featured product. A staff of representatives will be on hand to provide information and literature on products of our manufacture.

THE S. E. MASSENGILL COMPANY #29

Bristol, Tennessee

The Massengill exhibit will feature Salcort, a new and effective way to administer cortisone therapy with smaller dosages.

Gallogen tablets, a synthetic product to produce true choloresis, will also be featured.

Also, some new information about Adrenosem, the systemic hemostat.

McNEIL LABORATORIES, Inc. #74

Philadelphia, Pennsylvania

Members of the California Medical Association are cordially invited to visit our booth #74, Mr. D. Glenn Livingston in charge. Products to be featured are Butisol Sodium, Clistin Maleate and Syndrox Hydrochloride.

MEAD JOHNSON & COMPANY #49

Evansville, Indiana

Mead Johnson & Company invite you to see new displays of Liquid Lactum and Powdered Lactum, the infant formula products with balanced caloric distribution. Also featured in the Mead booth will be Liquid Sobee, a hypoallergenic (milk-free) soya formula; Natalins, the smaller prenatal vitamin-mineral capsules; Natalins-T, for the treatment of anemias of pregnancy plus protective nutritional support; and Sustagen, the complete food for tube or oral feeding.

Booth No.

MEDCO PRODUCTS COMPANY #96

Tulsa, Oklahoma

See write-up under Barnes Medical Arts.

THE MEDICAL CENTER AGENCY #18

San Francisco

The Medical Center Agency, San Francisco, has for many years been the placement Center for physicians. If you are seeking a well-qualified colleague or new member for your staff, you will find the Medical Center Agency able to offer you the opportunity to choose from many applicants. Our complete registry of Specialists and General Practitioners enables you to select not only a man with ability but offers you a wide choice of personalities for a pleasant, cooperative associate.

If you are a physician looking for an association with an established group or individual in your special field, please stop at our booth to discuss available opportunities.

Interviews and listing will, of course, be treated with every confidence. (Norma Rohl, Director.)

THE MEDICAL PROTECTIVE COMPANY #12

Fort Wayne, Indiana

An unparalleled record of successful malpractice protection for doctors resulting from exclusive application to the professional liability field since 1899 distinguishes The Medical Protective Company from all others. Expert defense makes large coverage unnecessary. In fact, throughout the years 99.94 per cent of its policyholders have been completely covered under $2500. This long sustained record explains why many consider Medical Protective the Doctor's most secure source of security.

THE WM. S. MERRELL COMPANY #51

Cincinnati, Ohio

Tace, the unique non-steroid developed by Merrell, *offers a new approach to the treatment of the menopause.*

Tace is temporarily stored in body fat, and released over an extended period of time. One course of Tace therapy is generally all that is required to ease many patients into the symptom free postmenopausal period. Symptom relief is excellent, and side effects are virtually absent.

Merrell professional service representatives will be present to answer any questions you may have concerning this new and distinctive estrogen. They will be happy to discuss other Merrell specialties as well.

MILLER SURGICAL COMPANY #53

Burbank

Illumination at its best! Featuring electrically lighted Otoscopes, Ophthalmoscopes, Eye-Spuds, Vaginal and Rectal Scopes in various sizes. Plastic or stainless steel. A portable Electro-Scalpel weighing only 19 lbs., for cutting, desiccating, fulgurating and coagulating.

Be sure to see our new nasal coagulator with built-in suction.

C. V. MOSBY COMPANY #1

San Francisco

If you have a few moments to spare and would like to spend them pleasantly and constructively, drop by the Mosby Company booth, #1, near the main entrance of the auditorium and look over some of the new books and new editions in your field. There will be a number of recent publications for those doing general practice in internal medicine and in surgery as well as in the specialties. You are welcome to browse through these books to see what, if any, may be of help to you.

THE NATIONAL DRUG COMPANY #59

Philadelphia, Pennsylvania

You are cordially invited to visit the booth of The National Drug Company. The featured product will be Parenzyme Intramuscular Trypsin. Parenzyme Intramuscular Trypsin is a new, effective weapon against acute local inflammation. It restores local circulation with dramatic benefits in phlebitis (thrombophlebitis and phlebothrombosis) ; ocular inflammation (iritis, iridocyclitis and chorioretinitis) ; traumatic wounds; and varicose and diabetic leg ulcers. Parenzyme Intramuscular Trypsin is based on an entirely new concept of *biological continuity* . . . in terms of clinical enzymology. In very small doses, it initiates physiologic mechanisms—and dramatically restores circulation, expedites repair of tissue and prevents tissue necrosis.

NEPERA CHEMICAL CO., Inc. #39

Yonkers, New York

The Nepera exhibit features a new drug, Choledyl (choline theophyllinate), which represents a major advance in oral theophylline therapy. Whenever an oral xanthine is indicated; Choledyl assures higher theophylline blood levels, greater effectiveness, and superior patient tolerance.

Also featured: Biomydrin Nasal Spray, for effective antibiotic activity, prolonged nasal decongestion, and antiallergic effect.

Biomydrin Otic, for antibacterial, antifungal, and antipruritic action in otitis externa and media.

Two other preparations will be exhibited: Mandelamine Hafgrams, a urinary antiseptic; and Neohetramine, an antihistaminic.

THE NESTLÉ COMPANY, INC. #81

White Plains, New York

Featured in the Nestlé exhibit in booth #81 is Arobon, the anti-diarrheal product prepared from specially processed carob flour. Clinically tested and proven, Arobon is now available in both powder and wafer form. Also on display are the Nestlé infant feeding formula products, Lactogen, Dextrogen, and Pelargon. You are cordially invited to visit the Nestlé booth where qualified representatives will be on hand to answer your questions regarding the products on display.

THE NETTLESHIP COMPANY #8

Los Angeles

Administrators of professional liability and group accident and health programs for eight County Medical Associations in Southern California. Qualified representatives available to discuss problems pertaining to hospital or individual professional liability coverage, accident and health insurance, or other types of insurance.

Literature, which will assist in the prevention of claims and various forms to be used to protect, as far as possible, against malpractice claims.

ORTHO PHARMACEUTICAL CORPORATION #54

Raritan, New Jersey

Ortho cordially invites you to booth #54 where the well known line of obstetrical and gynecological pharmaceuticals will be on display. Particular emphasis will be placed on Ortho preparations for conception control. Ortho representatives will be on hand to offer pertinent information on their products.

PACIFIC COAST MEDICAL BUREAU #108

San Francisco

Pacific Coast Medical Bureau (Maria Gizzi, Director) will be in Booth #108. Up to date information on locations and associations. Doctors available for interview. Files include general practitioners, industrial physicians, administrators-medical directors as well as diplomates of all specialty boards. This Bureau also has a branch office in Los Angeles and offers complete coverage of the State. Drop by Booth #108—prompt and confidential service.

PARKE, DAVIS & COMPANY #101

Detroit, Michigan

Medical service members of our staff will be in attendance at our exhibit for consultation and discussion of various products of particular interest to members of the Association. Important specialties, such as Penicillin S-R, Benadryl, Ambodryl, Dilantin Suspension, Vitamins, Oxycel, Milontin, Amphedase, Thrombin Topical, etc., will be featured. You are cordially invited to visit our exhibit.

PELTON & CRANE CO. #56

Detroit, Michigan

High Speed autoclave sterilization is featured in the Pelton display of three autoclave sizes. You will find a size for the private office, the clinic or for stand-by equipment in the hospital. The Pelton autoclaves are self-contained; no plumbing connections of any kind are required. These are the only autoclaves that generate and then store steam available for immediate use.

PERSON & COVEY #26

Glendale

Registrants at the California Medical Association meeting are cordially invited to visit the Person & Covey exhibit, where their newest developments will be featured. Their representative will be present to welcome you and discuss these products with you. Of particular interest will be Hyperloid, the only standardized whole-root preparation combining D-Amphetamine Sulfate and Chloral Hydrate.

PET MILK COMPANY #57

San Francisco

The Pet Milk Company invite you to stop at booth #57 and taste their newest product, Instant Pet Nonfat Dry Milk. This completely new form of nonfat dry milk dissolves instantly by simply stirring with a spoon. Tasty, economical and convenient, it may be used wherever restricted fat and caloric intake is indicated, as well as in high protein diets.

Booth No.

PFIZER LABORATORIES #45

Brooklyn, New York

You are invited to visit the Pfizer booth. TERRAMYCIN INTRAMUSCULAR, CORTIL, BONAMINE and TYZINE will be the highlights this year of a star-studded cast including the complete line of TESTED and PROVED Terramycin dosage forms and the Steraject line of injectable Penicillin and Combiotic preparations.

PICKER X-RAY #95

Los Angeles

The Picker X-Ray Company will exhibit its 100 MA Full Wave Mobile X-Ray Unit with double-focus rotating anode tube. This represents a further refinement and improvement of the famous Picker Army Field Unit developed for the United States Armed Forces. Trained personnel will be available at the Picker Booth to discuss your x-ray problems with you.

PITMAN-MOORE COMPANY #36

Indianapolis, Indiana

The Pitman-Moore Company display will feature various Council accepted products, with particular emphasis on Veralba for the control of hypertension. Physicians are invited to visit the display and obtain additional information on this and other Council accepted specialties.

THE PURDUE FREDERICK COMPANY #85

New York, New York

The Purdue Frederick Company, New York, N. Y., booth #85, welcomes you to their presentation of PRE-MENS, for relief of entire complex syndrome of premenstrual tension; COLPOTAB, therapeutic vaginal insert tablet for treatment of trichomonas, vaginal pruritis, leukorrhea, and malodorous lesions. COLPOTAB contains a combination of drugs including the most effective trichomonacidal antibiotic tyrothricin which provides maximum results with fewest side reactions; and CHLOROGIENE Duchettes, esthetically acceptable hygienic douche and adjunctive therapy in vaginal infections. Representatives from our Medical Department will be happy to discuss with you technical and scientific aspects of our products and to provide you with recently published scientific reports and clinical trial supplies of these medicinals.

R. J. REYNOLDS TOBACCO COMPANY #21

Winston-Salem, North Carolina

Welcome to the R. J. Reynolds Tobacco Company Exhibit! You are cordially invited to receive a cigarette case (monogrammed with your initials) containing your choice of CAMEL, CAVALIER King Size, or WINSTON, the distinctive new king size, filter cigarette.

RIKER LABORATORIES, Inc. #89

Los Angeles

RIKER LABORATORIES presents PENTOXYLON, a new and more complete therapy in angina pectoris. PENTOXYLON combines the actions of RAUWILOID, the alseroxylon fraction of Rauwolfia serpentina, and of pentaerythritol tetranitrate (PETN). A truly important step toward providing a solution to the total clinical problem of angina pectoris. Complete information available at booth #89.

Booth No.

A. H. ROBINS COMPANY, Inc. #72

Richmond, Virginia

Physicians attending the meeting of the California Medical Association are extended a cordial invitation to visit the exhibit of the products of the A. H. Robins Company. Experienced medical representatives will be in attendance to welcome you and answer inquiries relative to any of Robins' prescription specialties.

J. B. ROERIG AND COMPANY #94

Chicago, Illinois

Physicians and their friends are cordially invited to visit the ROERIG booth (#94), where will be highlighted the many fine products ROERIG has pioneered and which enjoy such a wide acceptance in the medical profession. BONADOXIN—for the prevention of nausea and vomiting of pregnancy. ROETINIC, the newest 1 a day capsule formulation, for all treatable anemias, and ASF, ROERIG's new anti-stress formula. Also available will be VITERRA, VITERRA THERAPEUTIC, AMPLUS, OBRON, OBRON HEMATINIC and HEPTUNA PLUS. Samples and literature will be available on the above products including adequate amounts for clinical trial.

SANBORN COMPANY #71

Cambridge, Massachusetts

Featured at the Sanborn Company Booth #71 will be a continuous demonstration of the new Sanborn Viso-Scope, a 5-inch cathode ray oscilloscope, specially designed for use with the Sanborn direct-writing electrocardiographs, such as the famous Viso-Cardiette—as well as with more elaborate recording systems used in the research laboratory.

The Viso-Cardiette itself will also be prominently displayed, as will the popular Sanborn Metabulator. In addition full data will be available on Sanborn 1, 2 and 4-channel direct-writing recording systems; the Twin-Beam photographic recorder for simultaneous phonocardiography; the Electromanometer, for physiologic pressure measurements; and other Sanborn equipment for cardiovascular diagnosis and research.

SANDOZ PHARMACEUTICALS #90

San Francisco

This display will feature Cafergot tablets and suppositories for the treatment of migraine headache; Cedilanid-D, a new cardiac glycoside, for rapid digitalization and cardiac emergencies; Acylanid (acetyldigitoxin), a new and effective oral cardiac glycoside; Hydergine for geriatric disorders, early cerebral vascular accidents, hypertensive headache and peripheral vascular disease; and Fiorinal for tension headache.

W. B. SAUNDERS COMPANY #30

Philadelphia, Pennsylvania

Among the newest of Saunders line of interest to the practicing physician are: Cecil-Loeb:—9th edition—Textbook of Medicine; Deutschberger: Fluoroscopy in Diagnostic Roentgenology; Greenhill:—11th edition—Obstetrics; Ochsner & DeBakey: Christopher's—7th edition—Minor Surgery. Many more also will be on display at our booth.

Booth No.

SCHERING CORPORATION #100

Bloomfield, New Jersey

Schering Corporation, Bloomfield, New Jersey (Booth #100). Members of the California Medical Association and their guests are cordially invited to visit the Schering exhibit where new therapeutic developments will be featured.

Schering representatives will be present to welcome you and to discuss with you these products of our manufacture.

G. D. SEARLE & CO. #28

Chicago, Illinois

You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle Products of Research.

Featured will be Vallestril, the new synthetic estrogen with extremely low incidence of side reactions; Banthine, and Pro-Banthine, the standards in anti-cholinergic therapy; and Dramamine, for the prevention and treatment of motion sickness and other nauseas.

SHARP & DOHME #75

Philadelphia, Pennsylvania

The many indications for 'Hydrocortone' or 'Cortone' highlights the therapeutic importance of these hormones in everyday practice. A new anesthetic agent 'Cyclaine' Hydrochloride with qualities suitable for such forms of regional anesthesia as infiltration, nerve block, spinal, caudal and topical is of interest. Research data relative to more effective therapy when penicillin is used in conjunction with 'Benemid' completes the exhibit. Expertly trained personnel solicit discussions on these observations.

SIMON MATTRESS MFG. CO. #33

San Francisco

Serta presents the finest in bedding, both for the home as well as the institution. Recommended for home use is the nationally advertised Perfect Sleeper Luxury mattress and the Perfect Sleeper Sertapedic mattress and recommended for institutional use is the Perfect Sleeper Hospital mattress with the smooth-top feature (no buttons to break out) and the new washable ticking. All of these fine products present a new thrill in sleeping comfort with their 'on the level' support. These Serta products are unconditionally guaranteed against defects for a period of 10 years.

SMITH, KLINE & FRENCH LABORATORIES #10

Philadelphia, Pennsylvania

At this meeting, 'Thorazine' will be featured. 'Thorazine' has an amazingly wide scope of clinical applications—and S.K.F. Representatives will be ready with the latest information on whichever phase is of most interest to you.

With the oncoming summer season and its attendant allergies, we think that 'Vasocort'—the anti-allergic nasal preparation containing hydrocortisone and two vasoconstrictors—will claim your attention. We hope you will stop by our booth—our Representatives will be glad to discuss these and other S.K.F. specialties with you.

Booth No.

E. R. SQUIBB & SONS #102

New York, New York

New Squibb products, and new brochures of useful interest to you on products already introduced, will be featured at booth #102. As in former years, your Squibb representatives again cordially invite you to visit the Squibb booth.

J. W. STACEY, Inc. #22 and 23

San Francisco

Stacey's established over a quarter of a century ago by members of the medical profession provides the doctor in the West with an efficient source for all medical books of all publishers. At booths #22 and #23 you will find displayed the latest books on medicine, surgery, and the specialties. You are cordially invited to browse at your leisure.

STAYNER CORPORATION #25

Berkeley

Stayner Corporation hopes that your attendance here at the California Medical Association will be enjoyable and pleasant.

At Booth #25 our representatives will be happy to see you and to discuss any of the some 120 products of our manufacture. Stayner will feature several new products which have proved of interest to the medical profession.

A new brochure on the importance of "Potassium Therapy in Medicine and Surgery" is available. To meet the growing awareness of the need of more adequate potassium replacement therapy, Stayner has developed a 15 grain (1.0 Gm.) "timed" enteric coated tablet—"PCS-15"—for convenience of administration and prescribing.

THE STUART COMPANY #106

Pasadena

The Stuart Company will feature "The Stuart Formula" as well as "Orexin" a new product for appetite stimulation. Literature and samples of other Stuart products will also be available.

S. J. TUTAG & COMPANY #50

Detroit, Michigan

Featured at the S. J. Tutag & Company booth will be the new Vagimine inserts, the ideal therapeutic approach for vaginal infections. Vagimine offers the physician a 7-way attack on trichomonal and monilial vaginitis. Due to its broad effects, Vagimine now makes vaginal smears unnecessary in determining the course of therapy. They are dainty, easy to use and economical.

You are cordially invited to stop at the booth and receive a complimentary bar of TX-11 soap, containing Actamer, the newest bacteriostat.

U. S. VITAMIN CORPORATION #5

New York, New York

Exhibit demonstrates the new "oil-in-water" Aquasol Vitamin A Drops . . . providing natural vitamin A in aqueous solution. Latest literature describing more rapid absorption of aqueous vitamin A as compared with vitamin A oil solutions . . . as well as clinical uses of water-soluble A solution . . . will be distributed.

Exhibit also features original, complete lipotropic therapy . . . METHISCHOL . . . the combination of five proven lipotropic agents: B_{12}, choline, methionine, inositol and liver extract. Therapeutically effective in the treatment of hypercholesterolemia as associated with atherosclerosis, coronary disease, obesity, diabetes and various forms of liver disease, including liver cirrhosis and toxic hepatitis.

THE UPJOHN COMPANY #55

Kalamazoo, Michigan

Members of the medical profession are invited to visit the Upjohn booth where members of The Upjohn Company professional detail staff are prepared to discuss subjects of mutual interest.

VARICK PHARMACAL CO., Inc. #78

New York, New York

E. Fougera & Company, Inc., and division Varick Pharmacal Company cordially invite physicians to discuss with professional service representatives new preparations of importance to their everyday practice. Descriptive literature and samples of all products will be available.

WALKER LABORATORIES, Inc. #43

Mount Vernon, New York

PRECALCIN and PRECALCIN LACTATE will be featured at the WALKER booth. PRECALCIN is the original dietary adjunct supplying comprehensive vitamins and minerals for use during pregnancy and lactation. The new PRECALCIN LACTATE product is the same as the original PRECALCIN except for the source of calcium which is the lactate instead of the phosphate. By providing both forms, the doctor may have his choice of calcium sources to suit individual patient requirements.

WARNER-CHILCOTT LABORATORIES #112

New York, New York

Two important cardiovascular agents will be featured at the Warner-Chilcott booth: Methium—to lower blood pressure and relieve hypertensive symptoms and Peritrate—to prevent attacks in angina pectoris.

A new drug, Parsidol—for the efficient management of Parkinson's disease will also be exhibited. Representatives and research personnel will welcome an opportunity to discuss these drugs with you.

WARREN-TEED PRODUCTS COMPANY #19

Columbus, Ohio

The Warren-Teed Products Company cordially invites you to visit their exhibit at booth #19, where many new products of interest to the medical profession will be displayed. Courteous representatives will be in attendance at all times to assist registrants in any way possible.

WESTERN SURGICAL SUPPLY CO. #34 and 35

San Francisco

The latest in ultra-sound equipment, the new Swedish examination lamps, late short-wave machines, ultra-violet lamps, and other items in doctors' equipment and supplies will be shown at our booth. You are cordially invited to stop by and talk to our representatives in attendance.

WESTWOOD PHARMACEUTICALS #3

Buffalo, New York

Westwood will display Gentia-Jel—the only effective Gentian violet jelly you can prescribe for self treatment by the patient at home. Eliminates messy office treatments which often stain your furniture and clothing.

Lowila Cake, the only completely soapless skin cleanser, in cake form, available to your allergic or dermatitic patients whenever soap is contraindicated. Obtain a Lowila Cake from the Westwood Booth for your personal use.

WHITE LABORATORIES, Inc. #113

Kenilworth, New Jersey

WHITE'S LACTOFORT—Unique milk-fortifying supplement combines 1-Lysine, vitamins and minerals. Lysine, key amino acid, is essential for optimal protein utilization, but is not adequately available in the diet of infancy and early childhood. LACTOFORT improves appetite, weight, nutrition and muscle tone—promotes normal growth and development.

W. W. WILEY CO. #116

Oakland

See write-up under Liebel-Flarsheim Company.

WINTHROP-STEARNS, Inc. #84

New York, New York

THEOMINAL R.S. (Theominal with Rauwolfia serpentina), an alliance of the classic and contemporary in antihypertensive compounds. Theominal R.S. combines the vasodilator and myocardial stimulant actions of theobromine and Luminal with the moderate central hypotensive effect of Rauwolfia serpentina. Gentle sedation calms the patient and a feeling of "relaxed well being" is established. Headache and vertigo disappear as the blood pressure and pulse rate are reduced gradually.

HYPAQUE sodium 50% sterile solution (ampuls of 30 cc.), new well tolerated highly radiopaque medium for excretion urography, contains 59.8% iodine. Produces excretory urograms of a clarity approaching that usually obtained by the retrograde method.

WOODSIDE ACRES HOSPITAL #83

Redwood City

Charts and pictures to show method of detoxication and the Conditioned Reflex Therapy for the treatment of alcoholism, emphasis being given to the physiological factor of alcoholism, as given at Woodside Acres Hospital. Also, other interesting items on alcoholism.

VISIT THE TECHNICAL AND SCIENTIFIC EXHIBITS

House of Delegates Agenda

1955 Annual Session

Ballroom, Sheraton-Palace Hotel

Speaker........................Donald A. Charnock, Los Angeles
Vice-Speaker........................Wilbur Bailey, Los Angeles
Secretary........................Albert C. Daniels, San Francisco

FIRST MEETING

Sunday, May 1, 1955, at 9:30 a.m.

ORDER OF BUSINESS

1. Call to order.
2. Report of Committee on Credentials, and Organization of the House of Delegates.
3. Roll call.
4. Announcement and approval of Reference Committees.
    (a) Committee on Credentials. (Delegates must register with the Committee.)
    (b) Reference Committee on the Reports of Officers, the Council and Standing and Special Committees. (Reference Committee No. 1.)
    (c) Reference Committee on Finance, to review the reports of the Secretary-Treasurer and the Executive Secretary and to study and make recommendations to the House of Delegates on the budget submitted by the Council and the amount of dues for the ensuing year. (Reference Committee No. 2.)
    (d) Reference Committee on Resolutions and New and Miscellaneous Business. (Reference Committee No. 3.)
    (e) Reference Committee on Amendments to the Constitution and By-Laws. (Reference Committee No. 4.)
    (f) Reference Committee on C.P.S. business.
5. Address by President of the Woman's Auxiliary to the C.M.A.—Mrs. Frederick J. Miller, Bakersfield.
6. Address by President Arlo A. Morrison—Presentation of 50-Year Awards.
7. Miscellaneous announcements by the Speaker. (Stenographic service to secure copies of resolutions, etc.)
8. Report of the President—Arlo A. Morrison.
9. Report of the President-Elect—Sidney J. Shipman.
10. Report of the Speaker of the House of Delegates—Donald A. Charnock.
11. Report of the Vice-Speaker—Wilbur Bailey.
12. Report of the Council—Donald D. Lum.
13. Report of the Trustees of the California Medical Association—Arlo A. Morrison, President.
14. Report of the Secretary—Albert C. Daniels.
15. Report of the Treasurer—Albert C. Daniels.
16. Report of the Executive Secretary—John Hunton.
17. Report of the Editor—Dwight L. Wilbur.
18. Reports of District Councilors.
19. Reports of Councilors-at-Large.
20. Report of Legal Counsel—Peart, Baraty & Hassard.
21. Report of C.P.S. Board of Trustees.
22. Reports of Standing and Special Committees:
    A. Standing Committees:
        (a) Executive Committee—Ivan C. Heron.
        (b) Committee on Associated Societies and Technical Groups—H. Gordon MacLean.
        (c) Auditing Committee—Ivan C. Heron.
        (d) Committee on History and Obituaries—J. Marion Read.
        (e) Committee on Hospitals, Dispensaries and Clinics—Jay J. Crane.
        (f) Committee on Industrial Practice — Packard Thurber, Sr.
        (g) Committee on Medical Economics—Leopold H. Fraser.
        (h) Committee on Medical Education and Medical Institutions—Walter E. Macpherson.
        (i) Committee on Military Affairs and Civil Defense —Justin J. Stein.
        (j) Physicians' Benevolence Committee—Axcel E. Anderson.
        (k) Committee on Postgraduate Activities—Edward C. Rosenow, Jr.
        (l) Committee on Public Policy and Legislation—Dwight H. Murray.
        (m) Committee on Public Relations—Ed Clancy.
        (n) Committee on Scientific Work (Annual Session)—Albert C. Daniels.
    B. Special Committees:
        (a) Delegates to the American Medical Association —H. Gordon MacLean.
        (b) Advisory Planning Committee—John Hunton.
        (c) Blood Bank Commission—John R. Upton.
        (d) Medical Services Commission—Hollis L. Carey.
        (e) Cancer Commission—Ian Macdonald.
        (f) Editorial Board—Dwight L. Wilbur.
        (g) Committee on Industrial Health—Christopher Leggo.
        (h) Committee on Rural Medical Service—Henry A. Randel.
23. Old and Unfinished Business.
24. New business.

SECOND MEETING

Wednesday, May 4, at 9:30 a.m.

Order of Business

1. Call to order.
2. Supplemental report of Credentials Committee.
3. Roll call.
4. Secretary's announcement of Council's selection of place for the 1956 annual session.
5. Election of Officers:
   - *(a) President-elect.*
   - *(b) Speaker.*
   - *(c) Vice-Speaker.*
   - *(d) District Councilors (three-year term):*
     1. Fourth District—J. Philip Sampson, Santa Monica (term expiring).
        Fourth District—Los Angeles County.
     2. Seventh District—Hartzell H. Ray, San Mateo (term expiring).
        Seventh District—Monterey, San Benito, San Mateo, Santa Clara and Santa Cruz Counties.
     3. Tenth District—Warren L. Bostick, Mill Valley (term expiring).
        Tenth District—Del Norte, Humboldt, Lake, Marin, Mendocino, Napa, Solano and Sonoma Counties.
   - *(e) Councilors-at-Large (three-year terms):*
     Benjamin Frees, Los Angeles (term expiring).
     Hollis L. Carey, Gridley (term expiring).
   - *(f) Delegates to American Medical Association:*
     Delegates and Alternates to the American Medical Association are elected for terms of two calendar years. The Delegates and Alternates to be elected at this meeting will serve for two calendar years starting January 1, 1956.

     Incumbents:
     1. Robertson Ward, San Francisco (term expiring).
     2. Sam J. McClendon, San Diego (term expiring).
     3. Eugene F. Hoffman, Los Angeles (term expiring).
     4. John W. Green, Vallejo (term expiring).
     5. Lewis A. Alesen, Los Angeles (term expiring).
     6. Frank A. MacDonald, Sacramento (term expiring).
     7. Paul D. Foster, Los Angeles (term expiring).
   - *(g) Alternates to American Medical Association:*

     Incumbents:
     1. Henry Gibbons, III, San Francisco (alternate to Robertson Ward).
     2. A. E. Moore, San Diego (alternate to S. J. McClendon).
     3. Frederic S. Ewens, Manhattan Beach (alternate to Eugene F. Hoffman).
     4. Orris R. Myers, Apple Valley (alternate to John W. Green).
     5. J. B. Price, Santa Ana (alternate to L. A. Alesen).
     6. Henry A. Randel, Fresno (alternate to F. A. MacDonald).
     7. Arthur A. Kirchner, Los Angeles (alternate to Paul D. Foster).
     8. J. Frank Doughty, Tracy, deceased (alternate to Dwight L. Wilbur).
6. *Election of C.P.S. Trustees:*
   Report of C.M.A. Council as Nominating Committee.

   Incumbents:
   - *(a)* Frank A. MacDonald, Sacramento (not eligible for reelection).
   - *(b)* T. Eric Reynolds, Oakland (not eligible for reelection).
   - *(c)* Mr. Thomas Hadfield, San Francisco.
   - *(d)* Mr. Carey S. Hill, Los Angeles.
   - *(e)* Rt. Rev. Msgr. Thomas J. O'Dwyer, Los Angeles.
7. Announcement by Secretary.
   Council's nominations of members of Standing Committees (for approval by the House of Delegates).
8. Reports of Reference Committees:
   - *(a)* Report of Reference Committee No. 1 on Reports of Officers, the Council, and Standing and Special Committees.
   - *(b)* Report of Reference Committee No. 2 on Reports of the Secretary-Treasurer and the Executive Secretary, on budget and dues.
   - *(c)* Report of Reference Committee No. 3 on Resolutions and New and Miscellaneous Business.
   - *(d)* Report of Reference Committee No. 4 on Amendments to the Constitution and By-Laws.
   - *(e)* Report of Reference Committee on C.P.S. business.
9. Unfinished Business.
10. New Business.
11. Presentation of Officers:
    President
    President-Elect
    Speaker
    Vice-Speaker
12. Presentation of Certificate to Retiring President—Arlo A. Morrison.
13. Approval of Minutes. (Committee to edit.)
14. Adjournment.

Donald A. Charnock, *Speaker*
Albert C. Daniels, *Secretary*

PRESIDENT'S DINNER DANCE

MONDAY, MAY 2

Garden Court, Sheraton-Palace Hotel, 8:00 p.m.

Formal dress optional

Tickets will be on sale at the C.M.A. Convention Office, Room A, Sheraton-Palace Hotel

OFFICERS AND DELEGATES

General Officers

ARLO A. MORRISON, Ventura	President
SIDNEY J. SHIPMAN, San Francisco	President-Elect
DONALD A. CHARNOCK, Los Angeles	Speaker of House of Delegates
WILBUR BAILEY, Los Angeles	Vice-Speaker of House of Delegates
DONALD D. LUM, Alameda	Chairman of Council
ALBERT C. DANIELS, San Francisco	Secretary
DWIGHT L. WILBUR, San Francisco	Editor
JOHN HUNTON, San Francisco	Executive Secretary
PEART, BARATY & HASSARD	Legal Counsel

House of Delegates—52nd Annual Session

TOTAL DELEGATES (319)

DELEGATES EX-OFFICIO (40)

Arlo A. Morrison, Ventura	President
Sidney J. Shipman, San Francisco	President-Elect
Donald A. Charnock, Los Angeles	Speaker of House of Delegates
Wilbur Bailey, Los Angeles	Vice-Speaker of House of Delegates
Albert C. Daniels, San Francisco	Secretary-Treasurer
Dwight L. Wilbur, San Francisco	Editor
Francis E. West (1955)	Councilor 1st District
Omer W. Wheeler (1956)	Councilor 2nd District
H. Clifford Loos (1957)	Councilor 3rd District
J. Philip Sampson (1955)	Councilor 4th District
Robert O. Pearman (1956)	Councilor 5th District
Henry A. Randel (1957)	Councilor 6th District
Hartzell H. Ray (1955)	Councilor 7th District
Samuel R. Sherman (1956)	Councilor 8th District
Donald D. Lum (1957)	Councilor 9th District
Warren L. Bostick (1955)	Councilor 10th District
Ralph C. Teall (1956)	Councilor 11th District
Benjamin Frees (1955)	Councilor-at-Large
Hollis L. Carey (1955)	Councilor-at-Large
Arthur A. Kirchner (1956)	Councilor-at-Large
T. Eric Reynolds (1956)	Councilor-at-Large
Arthur E. Varden (1957)	Councilor-at-Large
Ivan C. Heron (1957)	Councilor-at-Large

ELECTED DELEGATES (279)

Alameda-Contra Costa County (23)

Delegates	*Alternates*
Allen, Dorothy M.	Attwood, C. J.
Allington, Herman	Bartlett, J. C.
Baxter, Philip N.	Benson, K. W.
Bolender, Melvin	Carson, A. B.
Clausen, Edwin	Crenshaw, Gerald
Crockett, H. C.	Daily, Kaho
Crum, R. Abbott	DeVoe, Robert
Dodds, Donald	Due, Floyd
Dozier, Thomas J.	Ellis, Grant
Dugan, David	Fornoff, Homer
Fraser, L. H.	Hart, Charles
Gadwood, Bernard B.	Harvey, Harold
Graeser, James B.	Jensen, O. B.
Hadden, Malcolm	Kerns, Claude L.
Henderson, Ernest W.	Langstroth, Lovell, Jr.
Hudson, Charles	Loe, Harris D.
Kaiser, William	Morrison, John G.
Kern, Max	Richards, Dexter, Jr.
Lawrence, Lester	Royce, Byron
Leet, Robert S.	Schriber, Paul
Maloney, Harold P.	Snook, Helen Jean
Shumaker, Paul	Spidell, Haydon J.
Truman, Stanley R.	Stephens, Stuart

Butte-Glenn County (2)

Delegates	*Alternates*
Elmendorf, Thomas	Colm, C. L.
Lawrence, W. S.	O'Neill, F. I.

Fresno County (5)

Delegates	*Alternates*
Adams, W. L.	Berg, Bruce
Argo, W. L.	Howard, Arthur
Halley, E. C.	Murray, John F.
Smith, Robb	Patterson, E. A.
Young, J. E.	Winter, W. Gordon

Humboldt County (2)

Delegates	*Alternates*
Olson, Fred A.	Crane, Clarence
O'Neil, Francis H.	Eley, James S.

Imperial County (2)

Delegates	*Alternates*
Bostwick, Jack R.	Richardson, Gene T.
Holleran, George C.	Schoensee, Burke

Inyo-Mono County (2)

Delegates	*Alternates*
Curtis, C. C.	Denton, Robert W.
Mason, J. Lloyd	Hough, Victor

Kern County (3)

Delegates	*Alternates*
Ogden, Roderick A.	Ellis, John F.
Patrick, Robert A.	Forney, Robert
Vaughan, J. E.	Scherb, Robert E.

Kings County (2)

Delegates	*Alternates*
Chamlee, William F.	Lees, Floyd E.
Sorensen, N. F.	

Lassen-Plumas-Modoc County (2)

Delegates	*Alternates*
Peters, R. M.	Davis, F. J., Jr.
Quinn, William	McKenney, Phillip W.

Los Angeles County (110)

Delegates	*Alternates*
Alsberge, Marden A.	Abbey, John D.
Anderson, Floyd K.	Adams, Lawrence
Andrews, Herbert J.	Anderson, Phillip A.
Anhalt, James E.	Arkush, Albert S.
Ashley, Kennerley C.	Askey, E. Vincent
Bailey, Arthur T.	Beckner, George L.
Bay, Max W.	Beckner, Gordon B.
Beckenbach, Madelene	Beers, Reid L.
Bennett, Ralph L.	Beltz, Daniel

Delegates	*Alternates*
Boehme, Earl J.	Bittner, Linus H.
Boyer, Kenneth H.	Blackmun, Robert L.
Brown, M. Hunter	Bloch, Jesse L.
Buell, Arthur H.	Blong, Peter H.
Buerger, Walter R.	Boyd, Harold
Bullock, Lewis T.	Bradford, Fred E.
Burns, Behle B.	Brayton, Donald
Burwell, L. C.	Bumpus, L. Dudley
Caruso, Tenero D.	Byrne, Ralph V.
Cass, Donald	Cardey, Norman L.
Clough, William C.	Carlson, Carroll C.
Commons, Robert R.	Clay, Joseph Baker
Conti, James G.	Cornell, Chester E.
Cook, Wells C.	Cowley, Leonard L.
Cosgrove, Jay B.	Croft, Leonard E.
Costolow, William E.	Crowe, Harold E.
Craig, Lyle G.	Dahlman, Rynol A.
Crane, Edward H., Jr.	Davis, Charles L.
Crane, Jay J.	Donath, Douglas
Cunnane, Philip J.	Doty, G. Ellis
Desimone, Leon O.	Farris, Jack M.
Doyle, James C.	Foster, Percy A.
Eaves, George Bennett	Frishman, Andrew J.
Einstein, Robert A. J.	Garrisi, Joseph A.
Ellmore, Lewis F.	Gaspard, Frederic J.
Ewens, Frederic	Gilfillan, Charles
Ewing, John Paul	Glazier, McCleery
Feinfield, Arthur	Golenternek, Dan
Fields, Jack	Goodman, Adrian B.
Fisher, Robbin E.	Gottschalk, G. Howard
Foster, Paul D.	Grubbs, William E.
Foster, Vernon W.	Haines, Charles L.
Gilbert, Wallace G.	Hansen, Phil
Gobbell, Willard M.	Harvey, Bernard J.
Gooel, Elmer F.	Harvey, Oscar
Graham, William E.	Haworth, Walter L.
Haining, Robert B.	Hayes, Edward William
Hamilton, John B.	Heckel, Donald Q.
Helms, Robert W.	Henry, Richard J.
Hoffman, Arthur M.	Hiemstra, Wybren
Hoffman, Eugene F.	Hoagland, Paul I.
Hohl, Elizabeth Mason	Hoover, Harold R.
Holland, Frank F.	Hough, Joseph D.
Horner, Howard E.	Huffman, L. Dale
House, Howard P.	Hughes, Clifford M.
Huff, Louis L.	Jones, Glen Ellis
James, John B.	Kaftan, Ludwig L.
Johnson, Fordyce	Kahlstrom, Sylvia
Kelsey, Joel S., Jr.	Kaufman, Reuben L.
Lambertson, E. R.	Kelley, Walter W.
Langan, Arthur John	Kendig, Tom A.
Laughlin, T. Jackson	Kirby, Frederick G.
LeValley, Thomas A.	Knox, Stuart C.
Levey, Charles C.	Knupp, Wilber S.
Ludwig, J. Lafe	Kredel, Richard A.
Magan, W. P., Sr.	Lange, Henry J.
Martin, Louis E.	Leary, John H.
Martin, Walter P.	LeMoncheck, Edward
Mauer, Edgar F.	Lloyd, O. Dale
Mendelsohn, Howard A.	Luck, J. Vernon
Miller, Charles J.	Macdonald, Ian
Moes, Robert J.	Macdonald, William Alan
Morgan, Henry G.	Mack, Marvin A.
Morrow, James J.	McDonald, John B.
Mueller, Edward J., Jr.	McDowell, Allyn J.
Nugent, Maurice W.	McNiel, Edwin E.
O'Connor, Joseph P.	Miracle, John E.
O'Neill, J. Norman	Mortensen, Elmer S.
Otto, Frank W.	Mulfinger, Carl L.
Paletz, Bernard E.	Mumler, William C.
Parks, Floyd R.	Nicoll, Gordon A.
Pheasant, Homer C.	Olson, Paul Frederick
Pindell, Merl Lee	Packer George L.
Pottenger, F. M., Jr.	Parker, Donald D.
Prichard, Hubert J.	Poulson, Charles T.
Quinn, William F.	Proctor, E. Ross
Randall, Morton H.	Rabwin, Marcus H.
Regan, James F.	Rago, Marco Robert
Remmen, E. T.	Raszkowski, Harvey J.
Reyes, J. M. de los	Reed, Joseph C.
Richards, Walter D.	Roberts, Chester L.
Rolf, Bruce B.	Roe, Harold E.
Rosenbaum, Maurice M.	Rolland, Ward M.
Rosenow, Edward C., Jr.	Schade, Frank F.
Ruddock, John C.	Schaeffer, Richard C.
Schroeder, Ralph L.	Schroeder, Herbert H.
Semenov, Herman Z.	Scott, Walter
Shaw, Gerald W.	Smith, Earl H.
Shelton, Robert M.	Smith, Eldon E.
Shery, Kurt T.	Smith, Samuel N.
Short, J. Edward	Sommer, Melvin
Smith, Gordon K.	Spatz, Jerome M.
Spickerman, Harold D.	Stokesbary, Delbert L.
Stern, Robert Leo	Thornburgh, Robert
Tennison, William J.	Thurber, Packard, Jr.
Todd, Malcolm	Treusch, Jerome V.
Turner, Ewing L.	Turbow, Arthur O.
Tyroler, Frederic N.	Tyler, Edward T.
Wadsworth, E. E., Jr.	Waller, Lorenz M.
Wilson, Warren A.	Whitaker, J. Lawrence
Witherbee, Harold R.	Woolington, Sam S.

Madera County (2)

Delegates	*Alternates*
Need, O. U., Jr.	Braun, Lester E.
Weinberger, Herbert	Hall, Gordon C.

Marin County (2)

Culmer, J. William	Smart, William R.
Russell, Carroll A.	Smith, William Burgett

Mendocino-Lake County (2)

Hill, Thomas P.	Bradley, Duane
Massengill, James B.	Smalley, Robert B.

Merced County (2)

Bigler, Alex	Carson, Samuel
Pimentel, George	Fitzgibbon, C. C.

Monterey County (3)

Clark, Howard E.	Miles, Howard C.
Englehorn, T. D.	Mitchell, Allen Conrad
McPharlin, James H.	Simard, Ernest E.

Napa County (2)

Brignoli, Walter H.	Barber, Dale E.
Heegler, Fred	Marchus, Donald B.

Orange County (6)

Galbraith, Harold F.	Donaldson, A. Norton
Gendel, Samuel	Hanigan, Thomas E.
Price, J. B.	Struve, Edgar E.
White, Ralph E.	Weaver, Samuel
Whittaker, L. F.	Wickett, William H., Jr.
Wilson, L. E.	Wilcox, John G.

Placer-Nevada-Sierra County (2)

Dunievitz, Max	Rossitto, T. J.
Lang, Oscar	Wauters, Clifford

Riverside County (3)

Aikin, William	Humphrey, Norton R.
Batzle, J. Harold	Long, James C.
Martin, Hugh H.	Quick, E. D.

Sacramento County (6)

Berman, A. E.	Burden, Herbert S.
Chambers, Jack V.	Jones, Warren E.
Dozier, Dave F.	MacDonald, Frank A.
Grayson, Charles E.	Pope, Glenn A.
Kilroy, Dan O.	Sarkisian, Milton V.
Yant, James H.	Wallerius, Raymond M.

San Benito County (2)

Moore, E. N.	Hull, Roswell L.
Taylor, Kent	Young, David G., Jr.

San Bernardino County (5)

Abbott, C. Norman	Marsh, Norman E.
Coughlin, John H.	Melone, Frank C.
Hadley, Carl M.	Pelkey, George L.
Martin, J. Needham	Small, Carrol S.
Vargas, Roger A.	Taylor, Leonard M.

San Diego County (12)

Hollander, Frederick G.	Carpenter, Walter F.
Isenhour, Roger C.	Hall, Winston C.
King, Ralph M.	Hanna, Curtis M.
Marlow, Arthur A.	Hokr, William K.
Martin, Worth L.	Hyde, Charles R.
Moore, A. E.	Lauren, George P.
Newman, Willard H.	LeDuc, Ector
Ouer, Roy A.	Loveall, Robert
Pyle, Ross C.	Phalen, James R.
Robinson, Frank H.	Soldmann, W. T.
Rumsey, John M.	Tanaka, Roy
Telford, Joseph W.	Tancredi, Chester

San Francisco County (31)

Bender, William L.	Adams, John E.
Birnbaum, Walter D.	Bonfilio, Nicholas D.
Burnham, DeWitt K.	Callaway, Claude P.
Campbell, Donald M.	Franzi, Antonio J.
Campion, George	Grimes, Orville F.
Combs, Robert C.	Hand, Lee
Cox, Francis J.	Herzog, George K., Jr.
Fenlon, Roberta	Hodges, Francis T.
Flood, Randolph G.	Hurwitz, Samuel
Gardner, Kenneth D.	Joseph, Peter S.
Garland, L. Henry	Katz, Hilliard J.
Gibbons, Henry, III	Lastreto, E. Donald
Harrington, David O.	Mathes, Mary E.
Hinman, Frank, Jr.	McGuinness, Joseph S.
Hosmer, Matthew N.	Meherin, J. Minton
Howard, Frederick S.	Palmer, Richard
Kilgore, Alson R.	Pinelli, Roy W.
Moffitt, Herbert C., Jr.	Plate, Agnes G.
Morrissey, Edmund J.	Richards, Victor

Delegates	*Alternates*
Noble, Charles A., Jr.	Robson, George B.
Olney, Mary B.	Rustad, William H.
Rixford, Emmet L.	Smith, Curtis E.
Rochex, Francis	Sumner, William A.
Schaupp, Karl L., Jr.	Sweigert, Charles F.
Silvani, Henry L.	Thompson, James H.
Sirbu, A. B.	Torassa, George L.
Spitalny, August	Trauner, Lawrence M.
Talbott, Grace M.	Wagner, William
Ward, Robertson	Washburn, William W.
Weyrauch, Helen B.	Woo, Henry B.
Williams, A. Justin	Zumwalt, Reuben

San Joaquin County (3)

Armanino, Louis P.	Benn, James
Harrington, Donald C.	Mayo, John F.
Johnson, Neill P.	Noetling, Paul

San Luis Obispo County (2)

Werbel, Ernest	Middleton, Joseph G.
Wolfe, Alfred M.	Treadwell, R. T.

San Mateo County (7)

Allen, James R.	Armstrong, Charles D.
Brownson, Bradley C.	Binder, Gordon M.
Edwards, James S.	Geller, Philip S.
Farthing, Thomas E.	Gray, Logan
Fox, Norman C.	Lyne, Walter C.
Miller, A. G.	Miller, Lewis R.
Smith, Harry F.	Shidler, Frederic P.

Santa Barbara County (3)

Hill, Thurman K.	Brown, Harry E.
Reeves, David L.	Hammell, Max
Wentz, Arthur E.	Thacher, L. K.

Santa Clara County (9)

Currlin, Albert R.	Barrette, Pierce C.
Davis, Burt	Brodovsky, Dan
Dennis, Robert	Burchfiel, Robert
Foster, Thomas N.	Carlson, Carl O.
Fox, Leon P.	Cox, John
Josephson, J. B.	Duisenberg, Charles E.
Magoon, Leslie B.	Olson, Ray N.
Molineux, William L.	Sears, W. Norman
Morton, Paul V.	Snyder, J. Frederic

Santa Cruz County (2)

Newhall, Luther	Barr, H. S.
Randall, Samuel B.	Sedgwick, Darrell

Shasta County (2)

Jantzen, Roland R.	Buel, Walter
Kehoe, Julius M.	Eagle, Henry R.

Delegates	*Alternates*

Siskiyou County (2)

Anderson, Eugene V.	McGuire, James B.
Vidricksen, H. L.	Meamber, Donald L.

Solano County (2)

Johnson, Lionel	O'Donnell, Bernard V.
Jones, F. Burton	Smith, Milton B.

Sonoma County (2)

Sharrocks, Horace F.	Froom, Jack
Thomas, Owen F.	Zieber, R. L.

Stanislaus County (2)

Hiatt, R. Stewart	Feher, George S.
Smith, Edmund L.	Miller, W. D.

Tehama County (2)

Frey, R. G.	Meuser, A. H.
Jourdan, Harve W.	Wood, O. T.

Tulare County (2)

Dungan, Vincent M.	Ehrke, Albert A.
Feldmayer, James E.	Jackson, Gordon L.

Ventura County (2)

Helbling, Franklin K.	Huff, W. Cloyce
Moore, J. W.	Nelson, James H.

Yolo County (2)

Kimbell, James H.	Nichols, Ray E.
Pearson, C. Woodring	Pye, Robert

Yuba-Sutter-Colusa County (2)

Parkinson, Stanley R.	Belz, John F.
Wisner, Francis P.	

Past Presidents (17)

Ewer, Edward N.	1925
Kinney, Lyell C.	1930
Harris, Junius B.	1931
Reinle, George G.	1933
Peers, Robert A.	1935
Wilson, Harry H.	1940
Molony, William R., Sr.	1942
Schaupp, Karl L.	1943
Goin, Lowell S.	1944
McClendon, Sam J.	1946
Cline, John W.	1947
Askey, E. Vincent	1948
Kneeshaw, R. Stanley	1949
Cass, Donald	1950
MacLean, H. Gordon	1951
Alesen, Lewis A.	1952
Green, John W.	1953

Reception

WOMAN'S AUXILIARY TO THE C.M.A.

SUNDAY, MAY 1, 5 TO 7 P.M.

Rose Room, Sheraton-Palace Hotel

Honoring Mrs. Arlo A. Morrison

All doctors and their wives are cordially invited

TWO GENERAL MEETINGS — MONDAY, MAY 2

Morning and Afternoon—9:30 to 12—2:00 to 5:00

Polk Hall, Civic Auditorium

VISIT THE TECHNICAL AND SCIENTIFIC EXHIBITS

PRE-CONVENTION REPORTS

Officers • Councilors • Committees • County Societies

REPORTS OF GENERAL OFFICERS

REPORT OF THE PRESIDENT

To the House of Delegates:

It takes a full two-year tour of duty as President-elect and President to fully appreciate the many facets of public and professional services engaged in by your California Medical Association.

I deeply regret that more physicians cannot have the experience and thereby enjoy the pride of accomplishment made possible by the energetic efforts and sacrifices of your fellow physicians throughout the state; that more of you have not experienced the feelings of camaraderie—devotion to duty on both the civic and professional fronts—that has been my privilege and pleasure while acting as president of your Association.

You can, however, take part in these extra dividends offered by our profession by a more active participation in the affairs of our organization at both the county and state levels.

The various committees of the California Medical Association will make their detailed reports to you.

Meanwhile, but certainly not with the thought of their relative importance, I should like to review for the House of Delegates some of their noteworthy contributions.

Right at the start I wish to pay the highest possible tribute to the members of the Council, the executive committee of the Council, standing and special committees, public relations department and executive officers, for their devotion to duty and diligence in carrying out the directives of the House of Delegates. The activities of your Association are so numerous and varied that progress in the solution of our problems is impossible without the very real personal sacrifices made by these individuals. Members of the Association have shown rare judgment in electing these men to these responsible positions. Theirs is the job of the day-to-day policy direction of your organization.

Your Blood Bank Commission has been carrying on for the past year making certain that an ever-increasing number of Californians will have the life-saving therapy available in time of need. Although their operation has been less spectacular since the cessation of the demands of war, they have added a new bank to the chain at Stockton and the Fresno County Society's bank will soon become a nonprofit, profession-sponsored and -directed unit.

It is my hope that in the not too distant future the entire state will be served by profession-sponsored banks—nonprofit banks wherein the public will be assured of a ready supply of blood, this supply not being jeopardized by profit-seeking individuals.

Your Cancer Commission continues its function as a guardian of the public against quacks and charlatans on the one hand while expanding its professional skills in the attack on this dread disease on the other.

Day in and day out your Committee on Postgraduate Activities continues to take "what is new in medicine" to the far corners of the state. From my visits to the outlying counties, I am happy to report that this is one of the most appreciated services of the California Medical Association. In this endeavor, of course, we are greatly indebted to the leaders of the five medical schools for their excellent cooperation. During the past year Audio-Digest Foundation, a nonprofit foundation, was incorporated to make available to the individual practitioner of medicine a current review of the advances in medical science in a condensed form.

The Committee on Public Policy and Legislation many times holds the reputation of all of us in its very capable hands. It is their responsibility to oppose those measures which are not in the public interest—regardless of the probably attractive labels under which they are presented—and to support those measures designed to protect the health of the public and advance the progress of medicine.

Once having taken a position, the committee then is faced with the oftentimes difficult problem of interpreting that position to the public and the legislators.

This committee leans very heavily on our most capable general counsel and our equally capable executive secretary of the Public Health League.

They spend almost unbelievably long hours of many days —days extending far into the nights—fighting for what is best for the public and for the profession. The two interests are synonymous. Never, in my experience, have I seen this committee take a position that could, in any manner, be interpreted as a selfish one. This should be of great satisfaction to all California Medical Association members.

C.M.A.'s Medical Services Commission likewise is playing an important part in the affairs of your Association in the realm of medical care insurance and its many related facets.

They have done and are doing a most commendable job in presenting medicine's views to insurance company executives, management and others who are responsible for the purchase of protection for large employee groups. They are making a comprehensive study of the relative value of fees.

Also they are investigating the problem of medical care for the indigent and the aged. Medical care for the latter is a major and expanding program.

They have spent many days in consultation with officials of our own California Physicians' Service. Let me repeat—our *own* C.P.S.!

It is my opinion that we, as individual doctors, should never underestimate the value of C.P.S. In situations throughout the state in the past year C.P.S. has proven its value to the profession—proven the wisdom and the vision of those original physician-founders of the organization.

Two other departments of C.M.A., the Advisory Committee on Physicians and Schools and the Rural Health Committee, are accepting the responsibilities and the leadership the public expects of the profession in two widely separated fields.

The first mentioned committee has just recently taken part in a statewide meeting in Fresno which was attended by more than 200 leaders; members of the profession from all parts of the state, officials from the State Department of Public Health, the State Department of Education, city and county school officials and leaders of the Parent-Teachers Association.

Having taken part in the discussions, I am certain that the profession has laid the groundwork for further cooperation at both the state and local levels.

C.M.A.'s Rural Health Committee has continued its active participation and leadership in the California Council on Rural Health. We have been and will continue to be represented with meetings of representatives of farm groups, P.-T.A. officials, teachers and school executives and those interested in the extension of public health and agricultural information.

In certain areas of the state, special problems such as physician placement, sanitation, hospitals and migrant labor continually arise. They are best solved through the active participation, the help and counsel of the local physicians.

Availability. Participation. Action. These are some of the most important ingredients of our year 'round public relations successes. When and where we do *not* make ourselves available to assist in the solution of problems in the related fields of medicine—the reverse is true! The Rural Health Committee has recently participated as a joint sponsor in the first statewide Conference on Rural Health. The importance of the problems discussed was of such significance that Governor Knight proclaimed the week of the conference Rural Health Week. This conference was attended by representatives of all groups interested in rural health including the state departments concerned.

Your Committee on Scientific Work has carried on its assignment to bring outstanding lecturers to our annual meetings with such unusual success that these meetings are now some of the best attended in the nation.

After reviewing the accomplishments of our various committees and departments, and observing the progress made during the past several years I, personally, see no great cause for panic or alarm at—for want of more descriptive words—the social and economic pressures which, in the immediate future, will direct more and more of our attention to labor's participation in prepaid medical care plans and panel practice.

"What organized labor has started, organized medicine should finish"—this is advice of an A.M.A. committee chairman. A joint meeting in Washington of Virginia and District of Columbia medical societies heard Dr. William A. Sawyer state the case for *rapprochement* between medicine and labor to the end that both may benefit through attainment of good professional care, readily available, on an economic basis that is mutually sound and satisfactory. Dr. Sawyer is chairman of the Committee on Medical Care for Industrial Workers, which is a joint enterprise of A.M.A.'s Councils on Industrial Health and Medical Service.

"Initiative taken by unions in the past decade to gain medical care for their members, notably through collective bargaining contracts with employers, is a phenomenon whose full significance is still unappreciated by organized medicine," Dr. Sawyer indicated. He predicted:

"The more unions understand exactly what is possible and what their health and welfare funds will buy, the more formidable they will become as bargainers. Such bargaining may involve change and changes may hurt. The less radical it is, the less hurt. Perhaps medical societies, by bargaining freely and sincerely, can help shape and direct these changes."

The speaker urged that emphasis be laid on raising quality of medical services rather than its cost. He characterized insurance coverage as helpful but insufficient. "People want service, freedom to drop into the doctor's office or a center dispensary and ask questions about the simplest and most trivial matters. . . . In my opinion, the medical profession is being challenged today by far reaching events, events which need their professional leadership and I hope that as doctors we will have the wisdom to rise to the occasion."

Whereas Dr. Sawyer has expressed only "hope," knowing the California physicians as I do, knowing the political trials and tribulations we have faced together, knowing that medicine—good medicine—has always prevailed, I am confident that, as men of good will first, and as physicians second, we can and will meet the new problems and meet them successfully.

Respectfully submitted,

A. A. Morrison, *President*

REPORT OF THE PRESIDENT-ELECT

To the President and the House of Delegates:

As President-elect I have followed the custom of the past few years in sharing with the President the pleasant duty of visiting county societies from Shasta in the north to San Diego in the south, in company with members of the staff. The large attendance and warm welcome at these meetings was an inspiration, and it was pleasant to feel that the activities of the C.M.A. are of such a nature that they command the interest of the membership at large. It was heartening to sense the belief that the problems of one society are appreciated to be the problems of all. The activities of the staff and the policy decisions taken in recent years seem to be well understood by the majority of the membership. Under these conditions the outlook for continued progress should be encouraging indeed.

Respectfully submitted,

Sidney J. Shipman, *President-elect*

REPORT OF THE SPEAKER AND VICE-SPEAKER OF THE HOUSE OF DELEGATES

To the President and the House of Delegates:

The elimination of the mandatory interim session will increase the activity of the coming annual meeting.

In addition to the Reference Committee reports there will be important study reports which will require thoughtful consideration. If Council discussion is any criterion, the annual session will be far from dull.

Respectfully submitted,

Donald A. Charnock, *Speaker*
Wilbur A. Bailey, *Vice-Speaker*

REPORT OF THE COUNCIL

To the President and the House of Delegates:

Since the last complete report of the Council, rendered a year ago, the Council has held seven meetings and has reviewed the minutes of nine additional meetings of the Executive Committee. The Council meetings include those held at the Annual Session last May, where sessions on four consecutive days were considered as one meeting, recessed from day to day. Thus the Council has been in session for ten days of the past year.

At this writing another meeting is planned for February 5 and another meeting will likely be held prior to the Annual Session.

The Council regularly reviews the minutes and actions of the Executive Committee, since all decisions of that committee are tentative and subject to approval by the Council. The Executive Committee has now voted to hold meetings regularly each month, except where a scheduled Council meeting is set for approximately the same meeting date.

Without going into detail, the Council wishes to outline here some of the problems which have been before it during the past year. Details may be found in the Council minutes which are printed in the official journal.

1. *Industrial fee schedule.* The Council was kept informed at all stages of discussion on the new industrial fee schedule which was adopted by the Industrial Accident Commission and which became effective last October. Dr. Francis J. Cox and his committee did a tremendous job in bringing this new schedule into being and the Council wishes to express its profound thanks to the committee for a splendid job well done.

2. *Conference on Physicians and Schools.* The Council approved and voted financial support for the first annual Conference on Physicians and Schools, which was held in November in Fresno. This gathering brought together educational, parent-teacher and physician representatives from all parts of California and was considered by those present to have been an outstanding contribution to school health problems. The number of commendatory letters from educators, public health officers and others is proof positive of the value of this meeting. The Council has approved the formation of local school health councils and hopes that in this manner the lessons learned on a statewide level may be translated into terms of local action through the county societies.

3. *Rural Health Conference.* By the time this report is in type a Rural Health Conference will be under way in Fresno. This conference has been sponsored by the C.M.A., through the Council, in conjunction with the State Farm Bureau Federation and other statewide organizations. This conference also offers a fine opportunity for the Association to participate actively in a worthwhile move to bring about better health conditions in the rural areas and all communities in the state.

4. *State Department of Public Health.* During the past year the State Director of Public Health has attended all Council meetings and has kept the Council informed on the major public health problems in California, including poliomyelitis, encephalitis and the crippled children's services. Dr. Malcolm Merrill and his predecessor, Dr. Wilton L. Halverson, have at all times been most cooperative and the Council appreciates their willingness to bring the Association actively into the public health administration in this state.

5. *Audio-Digest Foundation.* The Council has authorized the incorporation of Audio-Digest Foundation as a nonprofit corporation, the profits of which may be contributed to the American Medical Education Foundation. Several members of the Council serve on the Board of Directors of the corporation and keep in touch with its progress. It is believed that this corporation will be able to show a most satisfactory progress and earn funds which will aid in the nationwide medical education program. The Council has advanced $10,000 to Audio-Digest Foundation, to supply working capital during the corporation's organization period.

6. *Physicians' Benevolence Fund.* The Council, through the Executive Committee, has approved the formation of another subsidiary corporation, the Physicians' Benevolence Corp., to acquire and dispense funds for the benefit of needy physicians and their families. This corporation, when operating, will take over the functions of the existing Physicians' Benevolence Committee. The chief advantage of incorporating this activity will be to secure tax exemption on benefits which are staged by the Woman's Auxiliary chapters. Under present laws, such benefit performances are subject to the imposition of federal entertainment taxes; where the proceeds are to go to a nonprofit charitable corporation, relief from such taxes will be possible.

7. *San Diego Legal Decision.* The Council was exceedingly disappointed at the decision of the California State Supreme Court in the litigation between Complete Service Bureau and the San Diego County Medical Society. The C.M.A. has been interested actively in this case over the past several years, and the Supreme Court decision holding that an advertising, closed-panel type of medical practice is legal will doubtless result in many changes in medical practice in California. The Council still has this subject under advisement and will attempt to evolve steps which may assure the continuation of ethical, high-type medical practice in California.

8. *Medical Students.* During the past year the Council authorized and financed a meeting of medical students in Los Angeles, which was attended by more than 400 interested students. Speakers from the Association covered a variety of subjects and responded to numerous questions after the formal presentations. A questionnaire distributed during the meeting indicated a tremendous interest on the part of the students in this type of social-economic indoctrination. Similar meetings are planned for the San Francisco area and for future months in Los Angeles.

9. *Medical Services Commission.* The Council has been kept advised throughout by the Medical Services Commission and has considered and approved the various proposals of the commission before they are further publicized. Financing for the commission's activities has been provided by the Council, to the end that a thorough job be done on the commission's part. The report of the Medical Services Commission appears on another page of this issue and is well worth reading and consideration by all CMA members.

10. *California Physicians' Service.* The Council has been pleased to have C.P.S. representatives present at each meeting to discuss the affairs of that organization. In addition, the Council is represented on the C.P.S. Board of Trustees by three Councilors named by the chairman. Thus a constant liaison is maintained. The Council has been pleased with the progress shown by C.P.S. since its low point in membership was reached last year; likewise, the constant gains in physician membership speak well for the acceptance of the C.P.S. program by the profession.

11. *Blood Bank Commission.* The Council has been kept informed at all times of the activities of the Blood Bank Commission. During the past year the Council approved a loan of $36,500 to the Delta Blood Bank, a newly-formed nonprofit corporation of the San Joaquin County Medical Society which purchased the former Red Cross blood bank in Stockton. Another loan of $50,000 was approved to the Central California Blood Bank in Fresno, where a new bank is being established to supplant a proprietary bank in a five-county area.

During 1954 the San Diego Blood Bank repaid, in advance of due date, the final balance on a $50,000 loan previously granted by the Council.

The Blood Bank Commission has proposed some changes in its official makeup, designed to streamline the operations of the California statewide blood bank system and to create a closer liaison between the blood banks and the Council. This subject will doubtless be before the House of Delegates in May.

12. *American Medical Education Foundation.* During 1954 the Council appropriated $100,000 to the American Medical Education Foundation, for distribution to those medical schools which are not primarily publicly-supported. The House of Delegates approved this contribution. The attention of the House of Delegates is invited to the continuing nature of the need of our medical schools for operating funds. While the C.M.A. has twice contributed $100,000 to the AMEF, such funds have been taken directly out of

surplus and have not been reimbursed with current income. It is apparent that some long-range plan must be developed, possibly through the addition of dues to assure an annual contribution from California for this most worthy cause. Your earnest consideration of means of meeting this problem is solicited.

13. *Malpractice Insurance.* The Council has appointed a statewide committee to look into the cause of high malpractice insurance rates. This committee includes members who have had considerable experience in this field and it is hoped that some answers may be found to improve the present high-cost situation.

14. *Rollen Waterson Associates.* The Council approved the retention of Rollen Waterson Associates as consultants in the field of voluntary health insurance. Summaries of the reports of these consultants have appeared as part of the Council minutes during the year. This firm, headed by a well-known medical society executive, has worked with the Medical Services Commission, the Council and the Executive Committee during the past year in the promotion of the voluntary types of prepaid medical care insurance featuring free choice of physician and hospital. The firm will doubtless make a further report at the meeting of the House of Delegates.

15. *Committee on Adoptions.* The Council has appointed a Committee on Adoptions which is meeting with a comparable committee from the State Bar of California to consider various proposals for amendments to the present adoption laws. This subject has been before the Council on several occasions in the past decade and it is hoped that suitable conditions may emerge from the current deliberations.

The above are some of the major items which have come up for Council attention in the past year. Others, too numerous to single out here, have also engaged the Council's time and consideration. The policy of the Council has been and continues to be to hear those who have suggestions relative to official policies of the Association. If additional items require attention prior to the 1955 Annual Session, the Council may wish to add orally to this report at the meeting of the House of Delegates.

In conclusion, our thanks go to the many committee members, county society officers and others who so graciously give their time and talents to the many problems confronting the C.M.A. Without such valuable assistance, little could be accomplished. With it, the Association continues to merit its standing as one of the outstandingly successful state medical organizations in the country.

Respectfully submitted,
Donald D. Lum, *Council Chairman*

REPORT OF THE PRESIDENT OF THE TRUSTEES OF THE C.M.A.

To the House of Delegates:

The Trustees of the California Medical Association is a nonprofit California corporation which has as its sole purpose the holding of assets accumulated by the Association and, by vote of the Council, turned over to the corporation for safekeeping. The officers of the Association customarily serve as officers of the corporation; members of the corporation are at all times the elected officers and Councilors of the C.M.A.

During the past year the members of the corporation and its officers, comprising a board of directors, have held one meeting each. At these meetings, the board of directors is elected, minutes approved, actions of the past year reviewed and necessary bank authorizations voted.

A report of the financial standing of the corporation, together with its receipts and expenditures for the fiscal year ended June 30, 1954, appears in this issue as a part of the report of the Treasurer, who serves in this same capacity with the corporation.

Respectfully submitted,
A. A. Morrison, *President*

REPORT OF THE SECRETARY

To the President and the House of Delegates:

The Secretary was reelected by the Council at the meeting in May 1954. He has attended the meetings of the Council and the Executive Committee and he has edited the minutes that were prepared by the Executive Secretary with the aid of the Legal Counsel. The Secretary presided over the meetings of the Committee on Scientific Work.

The Secretary also has been active in attending the meetings of the Committee on Postgraduate Activities, and in presiding over the Conference of Physicians and Schools sponsored by the California Medical Association.

The Secretary has been active on the Cancer Commission. The attention of the membership is called to the minutes of the Council and the Executive Committee printed in California Medicine. It is strongly recommended that this be read by all members.

Respectfully submitted,
Albert C. Daniels, *Secretary*

REPORT OF THE EDITOR

To the President and the House of Delegates:

It seems to your editor, casting back over the year, that the dominant development—certainly a heartening one—with regard to your journal was improvement in the quality, both scientific and literary, not only of articles that were accepted for publication but also of many of the manuscripts that for one reason or another were not accepted. This improvement did not of course come about suddenly in a 12-month period, but recently it has become insistently apparent. The pleasantest if not the most modest interpretation of the phenomenon is that California Medicine is come to such stature that good writers who have something to say are finding your journal a medium in which their reports appear in good company.

Last year more manuscripts were submitted from sources other than the Annual Session of the California Medical Association; and more of those thus submitted were accepted:

	From Annual Session		From Other Sources		Total	
	Rec'd	Accepted	Rec'd	Accepted	Rec'd	Accepted
1954......	123	83	120	72	243	155
1953......	120	86	91	58	211	144

Each year at this time of summation, reflection brings to mind not the burdens of editorship so much as the gratifying associations that go with the office—so much so, indeed, that reporting the year's work becomes in large measure a recitation of grateful acknowledgment of the invaluable help that has been given by many persons. It is warming to recall the willingness of service by persons who have been called upon to review books, to write special material, to advise on questionable matter in manuscripts. To them and to the members of the Editorial Board, upon whom falls a great part of the burden of reading and selecting manuscripts, your editor here sets down his earnest thanks.

Thanks go also to Robert F. Edwards, assistant to the editor, and to Mrs. Barbara Rooney, for without their invaluable help and assistance CALIFORNIA MEDICINE could not continue its place of leadership.

Respectfully submitted,

DWIGHT L. WILBUR, *Editor*

REPORT OF THE TREASURER

To the President and the House of Delegates:

The report of the Treasurer is limited to the figures taken from the independent audit made annually by certified public accountants, John F. Forbes & Company.

The Treasurer holds office as Secretary-Treasurer but does not handle the Association's accounts or other fiscal duties, outside of being called upon from time to time to add his signature to checks. The actual handling of accounts is done in the CMA office by staff members.

The exhibits shown here are set forth in three parts. First is the balance sheet of the Association, followed by an accounting of income and expenditures for the administrative and other activities outside the publication of CALIFORNIA MEDICINE. Second is the account of income and expenditures for the journal. Third is the balance sheet and income-expenditure account of the Trustees of the California Medical Association, a California nonprofit corporation which serves as a holding company for assets accumulated by the Association.

In preparing these figures we have not followed exactly the accounting form used by John F. Forbes & Company. Rather, we have rearranged the figures on income and expenditures for general purposes, to conform with the request of an earlier House of Delegates to set these figures forth in essentially the same form used in the budget approved by the House of Delegates for the fiscal period under review.

Respectfully submitted,

ALBERT C. DANIELS, *Treasurer*

CALIFORNIA MEDICAL ASSOCIATION

BALANCE SHEET, JUNE 30, 1954

ASSETS

CASH		$ 49,587.02
ACCOUNTS RECEIVABLE		8,576.73
LOAN RECEIVABLE—NEW MEXICO PHYSICIANS' SERVICE	$ 8,750.00	
Less reserve	8,750.00	
Remainder		
OTHER LOANS RECEIVABLE	$ 73,756.50	
Less reserve	73,359.50	
Remainder		397.00
INVESTMENT IN U. S. TREASURY BILLS (at cost)		399,147.00
TRUST FUND (contra)		11,825.55
FURNITURE AND FIXTURES (at nominal value)		1.00
DEFERRED CHARGES		2,498.29
DEPOSITS		625.00
TOTAL		$472,657.59

LIABILITIES

ACCOUNTS PAYABLE		$ 29,401.39
ACCRUED EXPENSES:		
American Medical Association—Delegates' and other expenses	$ 3,435.43	
Organization expenses	3,521.68	
Committees' and sundry	8,724.99	
Payroll taxes	400.72	
Total		16,082.82
TRUST ACCOUNT—PHYSICIANS' BENEVOLENCE FUND (contra)		11,825.55
DEFERRED INCOME—PREPAID ADVERTISING		280.76
SURPLUS		415,067.07
TOTAL		$472,657.59

SURPLUS

EXCESS OF INCOME OVER EXPENDITURES:		
Administrative and other activities	$ 24,940.22	
Official journal of the California Medical Association	19,421.34	
TOTAL		$ 44,361.56
SURPLUS CREDIT:		
Reduction in reserve for blood bank loans outstanding at June 30, 1953	$ 23,004.50	
TOTAL	$ 67,366.06	
SURPLUS CHARGES:		
Expenses applicable to the prior period (net)	$ 219.60	
Reserve provided for loans during the year ended June 30, 1954:		
San Joaquin County Blood Bank	36,500.00	
Audio-Digest Foundation	10,000.00	
Provision for the retirement or other similar benefit of an employee of an affiliated organization	15,000.00	
TOTAL		$ 61,719.60
INCREASE IN SURPLUS FOR THE YEAR		$ 5,646.46
SURPLUS, JULY 1, 1953		409,420.61
SURPLUS, JUNE 30, 1954		$415,067.07

CALIFORNIA MEDICAL ASSOCIATION

ADMINISTRATIVE AND OTHER ACTIVITIES

INCOME AND EXPENDITURES FOR THE FISCAL YEAR ENDED JUNE 30, 1954

INCOME

	Fiscal Year Ended June 30		Increase
	1954	*1953*	*Decrease*
1. Membership dues (exclusive of Journal allocation)	$444,410.12	$428,120.45	$ 16,289.67
2. Annual Session	23,300.00	22,875.00	425.00
3. Postgraduate Courses	10,775.00	7,330.00	3,445.00
4. Interest Income	4,542.98	4,120.94	422.04
5. Miscellaneous Income	3,075.28	3,001.33	73.95
TOTAL	$486,103.38	$465,447.72	$ 20,655.66

EXPENDITURES

	1954	1953	Increase / Decrease
ADMINISTRATION:			
6. A.M.A. Meeting Expense	$ 11,912.01	$ 20,286.29	$ *8,374.28*
7. Annual Session Expense	29,764.81	30,606.30	*841.49*
8. Pensions	2,685.00	4,260.00	*1,575.00*
9. Council-Executive Committee Meetings	1,986.69	4,560.89	*2,574.20*
10. Equipment Expense	2,772.89	1,777.11	995.78
11. Legal Department	14,367.80	19,583.32	*5,215.52*
12. Los Angeles Office Expense	7,043.84	2,123.71	4,920.13
13. Office Supplies and Expense	8,353.39	6,582.52	1,770.87
14. Organization Expense	10,940.98	6,430.36	4,510.62
15. Rent	8,712.96	6,884.56	1,828.40
16. Telephone and Telegraph	2,832.51	2,514.66	317.85
17. Payroll Taxes	2,050.88	1,554.47	496.41
18. Employees' Annuities	....	7,669.90	*7,669.90*
19. Postage	1,452.35	1,560.85	*108.50*
20. Salaries:			
(a) Administrative	34,349.99	32,500.00	1,849.99
(b) Clerical	18,678.66	15,870.20	2,808.46
21. Secretarial Conference	2,487.99	1,071.50	1,416.49
22. Office Improvements	....	8,800.15	*8,800.15*
23. Woman's Auxiliary	1,750.00	1,750.00	....
24. Student A.M.A.	2,753.23	2,940.15	*186.92*
25. Travel:			
(a) Officers	2,796.65	406.33	2,390.32
(b) Council-Executive Committee	12,524.04	7,532.60	4,991.44
26. Miscellaneous	2,201.60	366.11	1,835.49
TOTAL ADMINISTRATIVE	$182,418.27	$187,631.98	$ *5,213.71*
SCIENTIFIC, EDUCATIONAL AND PUBLIC RELATIONS:			
27. Department of Public Relations	$ 83,754.50	$ 94,836.05	$ *11,081.55*
28. Public Policy and Legislation	58,466.46	56,070.87	2,395.59
29. Physicians' Benevolence	12,152.75	11,803.00	349.75
30. Postgraduate Activities	31,907.21	25,991.72	5,915.49
31. Cancer Commission	26,300.55	26,028.50	272.05
32. Other Committee Activities	57,087.04	33,286.71	23,800.33
33. Subscriptions to Libraries	6,076.38	5,901.50	174.88
34. Contribution to Student Nurse Recruitment	3,000.00	....	3,000.00
TOTAL SCIENTIFIC	$278,744.89	$253,918.35	$ 24,826.54
TOTAL EXCLUSIVE OF JOURNAL	$461,163.16	$441,550.33	$ 19,612.83
EXCESS OF INCOME OVER EXPENDITURES	$ 24,940.22	$ 23,897.39	$ 1,042.83

CALIFORNIA MEDICINE

Official Journal of the California Medical Association

INCOME AND EXPENDITURES FOR THE FISCAL YEAR ENDED JUNE 30, 1954

INCOME	Fiscal Year Ended June 30 *1954*	 *1953*	Increase *Decrease*
1. Advertising	$130,648.77	$114,879.91	$ 15,768.86
2. Members' subscriptions allocated from dues	38,471.50	35,944.50	2,527.00
3. Other subscriptions	2,485.15	2,753.90	*268.75*
4. Reprints (net)	526.21	522.93	3.28
TOTAL REVENUES	$172,131.63	$154,101.24	$ 18,030.39
EXPENDITURES			
5. Printing	$102,549.36	$ 90,456.60	$ 12,092.76
6. Advertising sales expense	13,127.33	11,467.23	1,660.10
7. Salaries	20,994.25	17,519.51	3,474.74
8. Rent	3,043.20	3,041.12	2.08
9. Telephone and telegraph	1,534.56	1,572.19	*37.63*
10. Postage and mailing	4,829.81	4,953.53	*123.72*
11. Addressograph	1,738.03	1,887.51	*149.48*
12. Illustrations	1,432.23	1,907.95	*475.72*
13. Advertising discounts and collection expense	2,369.01	2,061.47	307.54
14. Sundry	1,092.51	601.67	490.84
TOTAL EXPENSES	$152,710.29	$135,468.78	$ 17,241.51
EXCESS OF INCOME OVER EXPENDITURES	$ 19,421.34	$ 18,632.46	$ 788.88

TRUSTEES OF THE CALIFORNIA MEDICAL ASSOCIATION

(A California Corporation)

BALANCE SHEET, JUNE 30, 1954

ASSETS			
CASH (including Trust Funds)			$ 23,797.82
INVESTMENTS (including Benevolence Fund investments)			1,155,000.00
TRUST FUND FOR CALIFORNIA MEDICAL ASSOCIATION EMPLOYEES			40,096.44
TOTAL			$1,218,894.26
LIABILITIES			
TRUST ACCOUNTS:			
Benevolence Fund		$ 56,701.12	
Morris Herzstein Bequest Fund		7,258.43	
Total Trust Accounts			$ 63,959.55
ENDOWMENT FUND			276.74
OTHER TRUST FUNDS			42,604.79
SURPLUS:			
Contributed surplus		$882,915.99	
Earned surplus, June 30, 1953	$221,286.16		
Net income for the year (Exhibit A)	7,851.03	229,137.19	
Total surplus			1,112,053.18
TOTAL			$1,218,894.26

EXHIBIT A

TRUSTEES OF THE CALIFORNIA MEDICAL ASSOCIATION

STATEMENT OF INCOME FOR THE YEAR ENDED JUNE 30, 1954

INCOME—INTEREST ON BONDS		$ 27,400.00
EXPENDITURES:		
Audit fee	$ 300.77	
Custodian fee	360.63	
Miscellaneous	108.34	
Total		769.74
BALANCE		$ 26,630.26
ADD—THE EXCESS OF MATURITY VALUE OVER COST OF U.S. TREASURY BILLS, PURCHASED DURING THE YEAR, CHARGED TO THE INVESTMENT ACCOUNT TO REFLECT MATURITY VALUE OF THE TREASURY BILLS		53.35
Total		$ 26,683.61
OTHER CHARGES:		
Net premium on life and retirement insurance policies	$ 15,832.58	
Provision for the retirement or other benefit of an employee of an affiliated organization	3,000.00	18,832.58
REMAINDER—NET INCOME FOR THE YEAR		$ 7,851.03

REPORT OF THE EXECUTIVE SECRETARY

To the President and the House of Delegates:

Your executive secretary presents this report of his activities during the past calendar year. As in the past, this report is broken down into the several fields of authority delegated to him by the Council.

1. *Administrative.* Personnel in the headquarters office remains at the same level as a year ago, namely, five men and nine women employees. While there has been no increase in the past year, it is quite possible that another clerk-stenographer may be needed in the coming year to handle the increase in volume of membership work.

As now designated, two men employees are assigned full-time to CALIFORNIA MEDICINE and two women are considered as part-time employees of the journal. Salaries for these employees are charged directly against the publication, to the extent of the pro rata time devoted to that activity.

In the Southern California office, in Los Angeles, there are two full-time employees, Mr. Ed Clancy, Director of Public Relations, and one secretary. Telephone switchboard service is provided in the event the office may be temporarily vacant.

The C.M.A. also has five other employees who do not come under the direct jurisdiction of the executive secretary. Of these five, one is on a full-time basis as a secretary to the Blood Bank Commission. One physician and one secretary serve the Cancer Commission in the offices of the American Cancer Society in San Francisco; the salaries of these two are divided between the Cancer Commission and the American Cancer Society, California Division. There are also two part-time employees in Carmel, Dr. Charles A. Broaddus, director of postgraduate activities, and his secretary.

Physically, the headquarters office is in excellent condition. The improvements made last year, when more space became available, have made for a closer unity in the office, with all activities in one area rather than in two offices on the same floor. The new arrangement makes possible a small waiting room which is most convenient for visitors to the office, especially physicians using the placement service.

Mechanically, a similar excellent condition can be reported. Typewriters, duplicating machine and other office equipment have been maintained in top condition, and the policy of making periodic replacement of mechanical equipment assures the best in service at all times. During the past year a Western Union message machine has been installed, making it possible to receive and transmit telegrams without recourse to either delivery boys or the former buzzer direct to Western Union offices. This machine has been installed without cost to the Association and has proved extremely valuable in the rapid sending and receiving of messages.

The Association's books and membership records, which go hand in hand, are in fine condition. Both sets of records are subject to an annual audit by certified public accountants, whose financial reports as of June 30, 1954, are printed elsewhere in this issue under the Report of the Treasurer. It is exceedingly gratifying to note that, with a membership of more than 13,000 active and associate members, the records in the C.M.A. office agree almost 100 per cent with those maintained by the A.M.A., where extensive IBM equipment is required to keep up membership data. The C.M.A. employs two people only in this work, although an addition to this staff may soon be needed.

2. *Membership.* The membership of the Association continued its upward trend during 1954, when the number of new members admitted was the largest of any year in its history. Office records show that 1,760 new members came into the C.M.A. in 1954. This gain was offset to some extent by 475 members who resigned or left California, 114 deaths, and 61 members who were granted retired membership. At the year-end the membership roster showed 12,797 active and 388 associate members. At the present rate of growth the Association will doubtless be eligible for another Delegate to the American Medical Association in 1956.

Shown below is a record of active membership of the component county societies as of November 1, 1954. This is the date on which, under By-Law provisions, the official count is taken for purposes of county society representation in the C.M.A. House of Delegates. County societies are eligible for one Delegate and one Alternate for each 50 active members or major fraction thereof, with a minimum of two representatives from each society.

C.M.A. MEMBERSHIP AS OF NOVEMBER 1, 1954

Alameda-Contra Costa	1153
Butte-Glenn	81
Fresno	241
Humboldt	68
Imperial	48
Inyo-Mono	11
Kern	153
Kings	29
Lassen-Plumas-Modoc	22
Los Angeles	5490
Madera	15
Marin	110
Mendocino-Lake	39
Merced	48
Monterey	137
Napa	58
Orange	281
Placer-Nevada-Sierra	59
Riverside	150
Sacramento	312
San Benito	10
San Bernardino	268
San Diego	599
San Francisco	1526
San Joaquin	164
San Luis Obispo	64
San Mateo	329
Santa Barbara	163
Santa Clara	443
Santa Cruz	81
Shasta	36
Siskiyou	17
Solano	68
Sonoma	125
Stanislaus	121
Tehama	10
Tulare	95
Ventura	88
Yolo	39
Yuba-Sutter-Colusa	44
TOTAL	12,795

3. *Meetings.* Your executive secretary has attended all meetings of the Council and of the Executive Committee during the past year. He has also served as secretary to the A.M.A. Delegates during the two national meetings and has sat in with numerous committees during their deliberations.

4. *Financial.* A complete financial report, taken from the figures of the certified public accountants, John F. Forbes & Company, appears on another page in this issue under the Report of the Treasurer. As pointed out in that report, the Treasurer has no direct control over the financial accounts, which have been assigned to the executive secretary as his responsibility. Under this arrangement, a brief financial review is in order.

On an overall basis, the Association closed the June 30, 1954, fiscal year with an increase in its surplus account of $5,646, or less than 1 per cent of the gross revenues for the period. This increase in surplus was recorded after charges of $61,720 had been made against the surplus account for nonrecurring items. One of these was a loan of $36,500 to a new blood bank, against which a 100 per cent reserve is carried. Another was a $10,000 loan to Audio-Digest Foundation, a wholly-owned subsidiary, which is also covered by a

100 per cent reserve. An additional $15,000 was charged to surplus in establishing a trust fund for the benefit of an employee of an allied organization.

On the income side of the picture, dues of $444,410 (exclusive of $3 per member allocated to CALIFORNIA MEDICINE) were 3.8 per cent higher than in the preceding fiscal year. Income from exhibits was $23,300, up 1.9 per cent from the earlier year, and revenue from postgraduate courses was $10,775, a gain of 21.3 per cent. Interest income went up 9.8 per cent and miscellaneous revenues were 4 per cent higher than in the preceding period.

Expenses, exclusive of those for the journal, were reduced from the preceding year for administrative functions and increased for scientific, public relations and educational purposes. Administrative expenses totaled $182,418, a decrease of 3.62 per cent from the 1953 fiscal year. This decrease is notable in the face of an ever-increasing membership which adds consistently to the work of the administrative office. If mandatory charges in this category are eliminated, the figures show that the expenses over which administrative employees have direct control were 5.75 per cent lower than in the preceding fiscal period.

Under the independent auditor's heading of "Scientific, Educational and Public Relations" expenses, the 1954 fiscal year showed total expenditures of $278,745, an increase of 9.8 per cent over the 1953 period. Outstanding items in this increase were a jump of 4.3 per cent in public policy and legislation, 22.8 per cent in postgraduate activities and 70.1 per cent in the activities of all other committees. The bulk of this latter increase came through the Medical Services Commission, which has greatly increased its activities in the past year. The relatively high increase in postgraduate expenses, amounting to $5,915, was somewhat offset by a gain of $3,445 in revenues coming from those attending the postgraduate courses.

The financial affairs of the Trustees of the California Medical Association are fully set forth in the brief accounts for that corporation under the Report of the Treasurer and need no further comment here. The financial status of the official journal, CALIFORNIA MEDICINE, will be discussed under that section of this report.

5. *California Medicine.* The official journal continues to add to its nationwide prestige under the program of constant improvements in format and presentation inaugurated by the Editor. The journal is designed primarily for the education and information of the members and is apparently serving its purpose admirably.

Your executive secretary serves as business manager and nominal publisher of CALIFORNIA MEDICINE and presents here a few highlights on its financial accomplishments during the 1954 fiscal year. Gross revenues for the year ended June 30, 1954 amounted to $172,132, a gain of 11.7 per cent from the preceding year. Advertising sales came to $130,649, up 13.7 per cent and members' subscriptions were $38,471, a gain of 7 per cent. Outside subscriptions totaled $2,485, a decrease of 9.8 per cent.

Total expenses of CALIFORNIA MEDICINE came to $152,710, a gain of 12.7 per cent from the preceding year. Included in the increased expenses were gains of 13.4 per cent in printing costs, 14.5 per cent in advertising sales costs and 19.7 per cent in salaries paid. In considering these increased expenses, it should be borne in mind that the Association membership increased some 7 per cent during the year, which accounts for a major portion of the printing cost gain. The increase in advertising sales costs was closely commensurate with the gain in advertising sales.

The journal is carried on the Association's books as a separate enterprise, with all expenses charged against it. On this basis, CALIFORNIA MEDICINE returned a net profit of $19,422 for the 1954 fiscal year, a gain of 4.2 per cent from the preceding year's profit. This net goes into general Association funds and is available for all budgetary purposes.

6. *Public Policy and Legislation.* The executive secretary continues to work with the Committee on Public Policy and Legislation, serving primarily as a clearing house for information and instructions. A similar position is occupied in matters of national legislation, in conjunction with the Legislative Committee and Washington Office of the A.M.A.

7. *Blood Bank Commission.* The executive secretary has worked very closely in the past year with the Blood Bank Commission and with two county societies in which new blood banks have been or will shortly be established. This cooperation is on a continuing basis and the Association office is ready at all times to aid wherever possible in this work.

8. *Cancer Commission.* The central office serves as a liaison with the Cancer Commission and its staff employees. Its services have been called upon on several occasions in the past year.

9. *Postgraduate Activities.* The executive secretary is also called upon by the Director of Postgraduate Activities in various fields of his activities. A fine cooperation is maintained in this important work and the facilities of the office are always at the command of the committee.

10. *Public Relations.* The executive secretary does not exercise final control over public relations activities but is in constant touch with Messrs. Clancy and Gillette, the full-time workers in this department. All programs clear through the Association office and are later checked with the Advisory Planning Committee before being put into effect. In addition, your executive secretary served during the first half of 1954 as a member of the A.M.A.'s Advisory Committee on Public Relations, until his nonrenewable term of appointment expired.

11. *Annual Session.* The 1955 Annual Session has been planned in the best possible manner consistent with the facilities available. It is unfortunate that the scientific meetings and all exhibits must be housed in the Civic Auditorium and the meetings of the House of Delegates in the Sheraton-Palace Hotel, San Francisco. This makes for considerable travel between the two areas but cannot be avoided in a meeting in San Francisco. The exhibit area in San Francisco's Civic Auditorium is ideally laid out for both technical and scientific exhibits and a record number has been scheduled for this meeting. Attention is again called to the ever-growing difficulty in selecting Annual Session sites. The constant membership growth makes each succeeding meeting larger than the previous session and poses additional problems.

12. *Placement Service.* In the past few years the Association's placement service for physicians has increased markedly in size and activity. This function serves both physicians and communities in seeing that the doctor and the opportunity are put in touch with each other. It is believed that a valuable public relations function is served through the operation of this service, which is offered gratis.

As an example of the volume of inquiry handled in the office, 1,150 inquiries were received in one three-month period of 1954, a typical calendar quarter, from physicians seeking locations. In the same period 33 communities in California requested the services of a physician, and 75 physicians were located who had come through the C.M.A. placement service. Of the applicant physicians, 120 made personal calls to the C.M.A. office.

13. *Central Office Staff.* Your executive secretary wishes to commend most highly the entire central office staff for its

fine performance of all tasks, even under adverse conditions. The same applies to the Southern California office, where Mr. Ed Clancy and Miss Gertrude Wadstein handle their assignments in splendid fashion. Members of the House of Delegates see these employees only at Annual Sessions but their performance throughout the year meets extremely high standards. Proof of this is readily found in the extremely low rate of employee turnover in the office and the long terms of employment of many key employees, running as long as 16 years. These employees are not privileged to make their own reports to you but, in their behalf, a "Well done" is very much in order. Without trying to single out any individual, it is only fitting to give added praise to Mr. Robert Thomas, the writer's assistant, for his fine work as executive secretary to the Medical Services Commission and his excellent planning and execution of the Conference on Physicians and Schools staged late last year in Fresno.

14. *Conclusion.* Thanks are very much due to the officers, Councilors, committee members and others actively engaged in the Association's work through committees and commissions. Likewise, our thanks go to the officers of the county societies, who so generously give their time and efforts to the common cause. The county executive secretaries also deserve all possible praise for contributing so liberally and promptly to the good of the Association.

Respectfully submitted,

JOHN HUNTON, *Executive Secretary*

REPORT OF LEGAL DEPARTMENT

To the President and the House of Delegates:

The Legal Department submits the following report covering the interval between the 1954 annual session and the time of the submission of this report in January, 1955.

During the past year we have attended all meetings of the House of Delegates, the Council, and the Executive Committee, as well as meetings of various commissions, standing committees, and special committees of the Association; and have also prepared and submitted opinions on a variety of subjects, as requested by the Association or its officers or its component societies.

In addition to our general advisory services, the following specific items warrant discussion at this time:

1. *Group Practice—Prepaid Care:*

This is one of the most important subjects now before the medical profession. The highlight during the past year was the decision of the California Supreme Court in the case of *Complete Service Bureau et al. vs. San Diego County Medical Society et al.* The supreme court's decision, which favored the closed panel plan, came as a distinct shock after the previous unanimous decision of the District Court of Appeal, Fourth District, which held that the closed panel organization was violating the rule forbidding corporate practice of medicine. The supreme court, however, by a five-to-two majority, reached the conclusion that closed panel practice involving solicitation of patients is now lawful in this state. The opinion of the five-judge majority is lengthy, and it is difficult to pick out from the many words employed a phrase or clause that succinctly summarizes it. However, we believe that the following statement by the majority justices very closely approaches the real intent of the court:

> "It was said in Pacific Ins. Co. v. Carpenter, 10 Cal. App. 2d 592 at page 595 that 'professions are not open to commercial exploitation as it is said to be against public policy to permit a "middleman" to intervene for profit in establishing the professional relationships between the members of said profession and the members of the public.' However, this principle is not contravened by permitting a group of interested persons to form a nonprofit corporation to secure for themselves medical services at a low cost."

While the facts in the *Complete Service Bureau* case were at variance with the idea of a consumer medical co-op, nevertheless the supreme court chose to characterize Complete Service Bureau as a "nonprofit cooperative," and chose to make its decision on this basis.

Analyzing the principle of *law* that the court expounds and disregarding, as the court did, the facts of the particular case, it appears clear that the justices of the California Supreme Court have decided that the time has come to modify the long-established rule prohibiting corporate practice of medicine to whatever extent is necessary to permit experimentation in the prepaid health field by consumer groups; further, that if such experimentation involves the use of a nonprofit corporation, such will be permitted regardless of the rule against corporate practice. If such experimentation takes the form of a closed medical panel, and if solicitation of patients is involved, then the rules prohibiting advertising and solicitation are to be disregarded.

There is no doubt but that the issue was drawn in the *Complete Service Bureau* case, and that the supreme court decided flatly and unequivocally that group medical practice utilizing the prepaid principle, whether under medical or lay control, is now legally permissible.

The foregoing summarizes what the court *did.* We should point out what it did *not* do.

First, it did not expressly overrule the corporate practice prohibition. On the contrary, it gave lip service to the rule prohibiting corporate practice, and thereby still retained the rule as to commercial corporations (the door was only opened for so-called "nonprofit" organizations).

Second, it did not undertake to change or modify medical ethics. It held that certain practices previously illegal are now *lawful;* it did not, however, hold that the ethical provisions prohibiting solicitation and advertising must be abandoned. The question of whether medical ethics must give way in the face of health insurance programs is still undecided in the United States. The United States Supreme Court in the A.M.A. case and in the Oregon case, and the California Supreme Court in the *Complete Service Bureau* case, have in each instance refrained from passing judgment on ethical principles.

Third, it does not change the rules of law or ethics in situations not involving health insurance plans. The majority opinion, and the minority opinions, all address themselves solely to the question of corporate practice on a prepayment or pooled-payment basis.

Fourth, it has no bearing upon the antitrust rules. That phase of the case has yet to be tried and was not before the court. To what extent, if any, the court will interfere with medical society activities to protect physicians and prepayment plans against restraints still remains undecided in California.

One most distressing by-product of the supreme court's decision is the fact that it threw the doors wide open for closed panel prepaid practice under lay control, but blithely left to others (to-wit, the Legislature) the problem of protecting the public against fraudulent plans or deceptive practices. The court made that which was previously unlawful, lawful; but there are no regulatory statutes and there is no state agency empowered to police the field. Insurance companies and Blue Cross are regulated by the Insurance Commissioner, C.P.S.-Blue Shield is under the jurisdiction of the Attorney General; hence, as to each of these types of organization the public has protection against fraud or deception or unsound practices. Closed panel plans that can qualify only because of the supreme court decision have no regulation. Just what the Legislature will do about this situation is impossible at this time to prophesy. It may adopt a laissez faire attitude and wait until some scandal develops, or it may undertake to establish a regulatory system for closed panel plans, or it may endeavor to nullify the supreme court decision by restrictive legislation.

No matter what course is pursued, it is quite evident that the medical profession has a vital interest at stake.

2. *Physicians' Benevolence:*

During the past year we have, on the authorization of the Council, separately incorporated the Physicians' Benevolence Fund, for the purpose of enabling the women's auxiliaries throughout the state to receive more favorable tax treatment in raising funds for physicians' benevolences. After necessary constitution and by-law changes are made the $1-per-member-per-year that is set aside for physicians' benevolence will be turned over to the new charitable corporation. The new corporation will be directly under the control of and its policies will be fixed by the C.M.A. Council.

3. *Legislation:*

At the time of preparing this report, the Legislature has just recessed until the end of February. The usual number of bills (between five and six thousand) have been introduced and are now being printed; as usual several hundred of them affect the practice of medicine, and we are now engaged in the laborious task of reading them all and analyzing them, so that the Committee on Public Policy and Legislation can determine its course during the next few months.

In addition to the writer of this report, both Mr. George A. Smith and Mr. Alan L. Bonnington have been available to the Association throughout the year, and have performed many tasks on behalf of the Association and its component societies.

It is a pleasure to be of service to the medical profession of California.

Respectfully submitted,

PEART, BARATY & HASSARD
By Howard Hassard

REPORTS OF DISTRICT COUNCILORS

FIRST COUNCILOR DISTRICT

San Diego County

To the President and the House of Delegates:

In the past year I have attended the meetings of the Council and the annual meeting of the House of Delegates, the minutes of which have been duly reported in CALIFORNIA MEDICINE. I continue to serve as chairman of the Public Health and Public Agency Committee which has continued with many meetings with representatives of the State Public Health Department in the field of the crippled children's work, the distribution of gamma globulin and polio vaccine, and other problems of mutual interest.

During the past year the San Diego Blood Bank, a member of the California Blood Bank System, has moved into its new quarters and has continued to operate to the distinct advantage of the community.

It is my hope to continue to work actively as a councilor of the First District in an attempt to correlate the activities of the San Diego County Medical Association with the California Medical Association.

Respectfully submitted,

FRANCIS E. WEST, *Councilor,*
First District

SECOND COUNCILOR DISTRICT

Imperial, Inyo, Mono, Orange, Riverside and San Bernardino Counties

To the President and the House of Delegates:

The County Associations were all visited by C.M.A. President Morrison and Mr. Clancy of the Public Relations Department.

The premeeting conferences which were held with the Board of Directors of the various associations of this District were quite helpful and informative to all.

Each of the visitation meetings was characterized by panel-type discussions, in which questions from the floor were answered by the panel, which consisted of the State officers who were present.

This type of meeting was exceptionally well received by the membership of the Second Councilor District.

Respectfully submitted,

OMER W. WHEELER, *Councilor,*
Second District

THIRD COUNCILOR DISTRICT

Los Angeles County

To the President and the House of Delegates:

I have attended all of the meetings but one of the Council during the last year, and I wish to state that as far as I can see the operations of the California Medical Association are in good condition.

I have attended several meetings, as a member of the Public Health Committee, with the staff of the Board of Public Health of the State of California, in regard to Crippled Children's Service, and the gamma globulin and anti-poliomyelitis vaccine, and wish to state that the activities of our Board of Health in these functions are working in a conscientious and satisfactory manner; and that the California Medical Association is consulted in all major problems of these functions.

Respectfully submitted,

H. CLIFFORD LOOS, *Councilor,*
Third District

FOURTH COUNCILOR DISTRICT

Los Angeles County

To the President and the House of Delegates:

Prepaid medical insurance plans continue to be of the highest importance. There have been several labor-physician meetings in conjunction with the California Physicians' Service and other insurance companies in our area. Definite progress has been made.

Respectfully submitted,

J. PHILIP SAMPSON, *Councilor,*
Fourth District

FIFTH COUNCILOR DISTRICT

San Luis Obispo, Santa Barbara and Ventura Counties

To the President and the House of Delegates:

During the past year as councilor of the Fifth District I have been particularly aware of and interested in the multitude of problems confronting the medical profession in California and the United States in general. Under the astute leadership of Drs. Arlo A. Morrison and Sidney J.

Shipman, the California medical profession is laboring to foster better public relations and to help the people of this state solve their problems relative to better prepaid health insurance programs and medical care.

I have attended all of the Council meetings this year and have visited the Santa Barbara, Ventura and San Luis Obispo County medical societies in my capacity as liaison officer between them and the Council. Several conferences have been held with Mr. Ed Clancy, Mr. Glenn W. Gillette and Mr. Ben Read regarding public relations in the tri-county area.

I have attended labor relations conferences, the annual meeting of the County Society presidents and secretaries, discussions of the Medical Services Commission and arguments relative to California Physicians' Service.

As advisory member to the California Medical Association Cancer Commission, I have attended all of these meetings and have been pleased with the excellent work which the Cancer Commission is doing in this state.

Other meetings attended this year are as follows: American Medical Association, Pacific Coast Surgical, California Postgraduate Institute, Society of Graduate Surgeons, Urologic Research Congress, Western Section of American Urological Association, and American College of Surgeons.

Respectfully submitted,

Robert O. Pearman, *Councilor,*
Fifth District

SIXTH COUNCILOR DISTRICT

Calaveras, Fresno, Kern, Kings, Madera, Mariposa, Merced, San Joaquin, Stanislaus, Tulare and Tuolumne Counties

To the President and the House of Delegates:

Since taking office as councilor of the Sixth District in May of last year, it has been my privilege to attend several county medical society meetings within the district. At each of these meetings so far attended it has been stimulating to observe the interest and alertness of the societies' officers and membership. Practically all of the societies have well-established working committees covering such subjects as postgraduate activities, professional relations, public health, to mention only a few.

Some of the societies within the district are actively engaged in programs relating to civilian health and welfare in general. Hence, civil defense occupies the attention of appointed groups within the societies. The problem of hospitalization and medical care programs is demanding the attention of several society memberships.

Blood banking has become a major interest within several of the Sixth District medical societies. The need for community blood banks, nonprofit and medical sponsored and patterned after the recommendations of the California Blood Bank Commission has become more and more evident. Thus, there are two such banks now in operation and one in the process of formation within the district. When completely organized these three might well serve to fulfill the blood banking needs of the entire area. It is most evident to the undersigned that the forward progress of this district within the structure of the California Medical Association has been due largely to the efforts of my predecessor, Dr. Neil J. Dau of Fresno, who has felt the need for temporary retirement from active participation because of ill health. It is our sincere desire to perpetuate the ideas and ideals of Dr. Dau.

Respectfully submitted,

Henry A. Randel, *Councilor,*
Sixth District

SEVENTH COUNCILOR DISTRICT

Monterey, San Benito, San Mateo, Santa Clara, and Santa Cruz Counties

To the President and the House of Delegates:

The Seventh Councilor District has made distinct progress this year in both its medical personnel and in its consideration of the social and economic problems of medicine.

Santa Clara County has established a $6,000 C.P.S. policy ceiling and is considering the establishment of district medical plans. The O'Connor Hospital staff has been reconstituted and members of the County Society are again working in full cooperation with the directors of the hospital.

Santa Cruz County has adopted a new constitution and is functioning well under it.

San Benito County is carrying on their blood donor program, and has enjoyed a progressive but rather quiet year.

San Mateo County Medical Society has devoted its medical programs in this entire year to a series of informative talks and lectures on the economics of medicine. This series has included a study of insurance plans, C.P.S., the problems of public relationship of medicine to the community, and the relationships of doctor to patient. This type of program has been most enthusiastically received by the membership.

Monterey County has seen an increase in its medical personnel and has solved many of the problems relative to its district hospital.

As Councilor for the District I feel that the doctors of the District are more and more aware of the important place that the study of medical economics and public relations must play in the future of medical practice.

Respectfully submitted,

Hartzell H. Ray, *Councilor,*
Seventh District

EIGHTH COUNCILOR DISTRICT

San Francisco County

To the President and the House of Delegates:

During the past year I have been honored to serve as Councilor from the Eighth District (San Francisco) for the California Medical Association. During this time I attended the organizational meeting of the council immediately following adjournment of the California Medical Association House of Delegates in May of 1954. I also was present at the first regular meeting of the Council of the California Medical Association held in San Francisco on October 3, 1954, during which many matters of great economic import were discussed by the Council. I furthermore attended the next meeting of the Council held in Los Angeles on November 21, 1954. Complete records of these Council meetings were given by me both verbally and in writing to the Board of Directors of the San Francisco Medical Society in order to keep them informed of the activities of the state organization's ruling body.

Respectfully submitted,

Samuel R. Sherman, *Councilor,*
Eighth District

NINTH COUNCILOR DISTRICT

Alameda and Contra Costa Counties

To the President and the House of Delegates:

Most of the activity of the Alameda-Contra Costa Medical Association during 1954 has centered around the work of the Medical Services Committee. This committee was created in January of 1954 to continue the work begun by the Fee

Survey Committee which initiated the study of "usual fees" in Alameda and Contra Costa counties. The resulting "Median Fee Survey" was distributed to all physicians, and made available to insurance underwriters and union group welfare plans to assist them in determining adequate and realistic health insurance coverage.

Members of this committee have attended meetings with representatives of other Bay Area medical societies, a symposium sponsored by the American Federation of Labor in San Francisco, and, most recently, a Health and Welfare Conference sponsored by the Institute of Industrial Relations of the University of California.

The committee has also devised, with the assistance of representatives of welfare plans and insurance consultants, a uniform health insurance reporting form. It is contemplated that, after a trial, some similar form could be prepared which would be acceptable statewide.

It is the aim of the Medical Services Committee to keep informed on all aspects of health insurance; develop and recommend policy to the ACCMA Council in all matters pertaining to prepayment for medical care; assist in health insurance problems in specific areas in Alameda and Contra Costa Counties, and work in close cooperation with the C.M.A. Medical Services Commission.

Respectfully submitted,

Donald D. Lum, *Councilor,*
Ninth District

TENTH COUNCILOR DISTRICT

Del Norte, Humboldt, Lake, Marin, Mendocino, Napa, Solano and Sonoma Counties

To the President and the House of Delegates:

No single major crisis has developed in my district that has not had its parallel in other sections. Perhaps the two problems that are receiving most of the attention are the development of an attitude and philosophy of the median fee type list and of a desire to discipline certain of the county members who have been found guilty in court of law of certain undesirable actions for which the County Societies are seriously considering expelling the members. The median fee lists in the southern county areas, immediately around the bay area, have received the closest consideration. In Solano County, such a list has actually been formally published, and in Marin County, as well as in Sonoma, active work along this line is present. Many of the counties are anxious to receive instruction from C.P.S. and from the C.M.A. regarding details of the preparation of these lists, and from time to time have sought advice from other authorities. They have been advised by me, however, that although the C.M.A. and the C.P.S. are most anxious to aid in every way and to inform the different counties of the progress made in other areas, it is nonetheless felt that the whole subject is one in a state of evolution for which there is no single proper pattern. Much of the detail of the list depends to a great extent upon local conditions and doctor philosophy, and naturally these should be developed to their full extent in eliciting the local doctors' support for the process.

Certain attitudes regarding the expulsion of members following convictions of felony need to be clarified. One county in particular was anxious to have a closer cooperation and exchange of attitudes between itself and the Board of Medical Examiners. When the Board of Medical Examiners has a physician before it for disciplining following a court conviction, it apparently too often occurs that the County Society concerned is not informed of the impending review and generally does not hear of the procedure, and its attitudes regarding the medical ethics of the member under suspicion are not solicited. The county in question considers this a very unfortunate situation, and feels that the lack of communication prevented the Board of Medical Examiners from obtaining all of the information possible regarding the ethical practice of the physician concerned. This Councilor held several conversations with members of the Board of Medical Examiners in an effort to establish some increased clarity in these procedures.

During the year, the visitations to the county societies were thoroughly successful and pleasant. The first county visited was the Mendocino-Lake, where Dr. Olga Miller was president. The following evening, the meeting was at Napa, where we had the added pleasure of having present the chairman of the Board of Trustees of the A.M.A., Dr. Dwight Murray. The following evening, at the Sonoma County Society, it was possible to attend a most pleasant pre-meeting cocktail hour at the home of Dr. and Mrs. Leslie Spear; and the Secretariat then repaired to the meeting place where a thoroughly pleasant and informative evening was completed.

This year, as has been a long time custom, the Auxiliary of the Sonoma County Society had a preceding luncheon for the officers and Secretariat of the C.M.A. President-elect Sidney J. Shipman found it impossible to be present, so the pleasant duty of addressing the ladies fell upon the less capable shoulders of the Councilor. With the pleasant and courteous, attentive audience, the surroundings of a spa in Guerneville, the duty was not found to be arduous, and the Councilor hopes that the ladies enjoyed the afternoon as much as he did. The noon luncheon meeting was very efficiently and effectively chairmanned by this year's president of the Auxiliary, Mrs. Spear, who was particularly effective in guiding the meeting along that delicate set which so nicely separates the pleasant social atmosphere from, at the same time, the informative and instructive business meeting.

The pattern of the meetings of this year has been one of a series of informative, brief addresses by each of the visiting men. Pertinent problems and policy attitudes of the C.M.A. are discussed, each visiting person taking those problems with which he is most familiar. The keynote of the evening is always reserved to last, when Dr. Shipman addresses the group. Following this pleasant experience, the chairman for the evening, Councilor Bostick, opens the meeting to questions and answers from the members present. The inquiries and responses have been very lively this year, so that the visiting men have left each meeting with the feeling that the members have been better informed of what the C.M.A. is trying to do as well as have the visiting officers been better aware of the attitudes of individual members.

At the time of submitting this report for publication, the meetings with the remaining three counties, Humboldt, Solano and Marin, have not occurred. The Humboldt meeting was postponed from December to March as a favor to the C.M.A. officers, since a meeting of the Council in Los Angeles was scheduled for the day after the original Humboldt meeting. Your Councilor has, of course, attended all of the Council meetings of the C.M.A., as well as the annual session. I trust that he has been able to effectively represent the views of his constituents and he earnestly solicits any opinions, attitudes or advice that his district society or members care to impart to him, so that he can more effectively function in their behalf.

Respectfully submitted,

Warren L. Bostick, *Councilor,*
Tenth District

ELEVENTH COUNCILOR DISTRICT

Alpine, Amador, Butte, Colusa, Eldorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Yolo and Yuba Counties

To the President and the House of Delegates:

Organized medicine in the 11th Councilor District remained strong throughout the year. The area has had a phenomenal rate of growth, but the number of new physicians has more than kept up with the population growth and all areas in this district appear to have an adequate supply of physicians. New hospitals are being constructed and some progress is being made in resolving the differences between osteopaths and M.D.'s in hospitals in several small areas of the district.

Nearly all of the component county societies in this district have been visited by officers of the State Association in the past twelve months. These visits have been well received and have been helpful to both the societies and officers concerned.

Your Councilor has attended all meetings of the Council in the last twelve months, and all meetings of the Medical Services Commission, in an attempt to remain informed on the problems with which the California Medical Association is concerned.

Respectfully submitted,

RALPH C. TEALL, *Councilor,*
Eleventh District

REPORTS OF COUNCILORS-AT-LARGE

To the President and the House of Delegates:

I have been in regular attendance at the Council meetings during the year 1954 and feel that the membership of the California Medical Association has been well represented by your governing body.

Respectfully submitted,

BEN FREES, *Councilor-at-Large*

To the President and the House of Delegates:

As Councilor-at-Large I have attended the meetings of the Council of the California Medical Association and have taken part in the discussions and decisions of the Council. I have also carried out committee and other assignments.

I have endeavored to translate the wishes of the House of Delegates to the county societies, to other organizations, including the California Physicians' Service as a Council-appointed trustee, to the Blue Cross of Northern California as a member of their board of directors and to the members of the California Academy of General Practice as chairman of the board of directors of the American Academy of General Practice. In turn, requests, questions and problems of these organizations as well as the membership at large of the California Medical Association have been referred to the Council for suggestions or action.

Respectfully submitted,

IVAN C. HERON, *Councilor-at-Large*

To the President and the House of Delegates:

It has been a pleasure to serve as a Councilor-at-Large this past year.

I have attended all meetings and have participated in the discussions and decisions of the Council.

In addition, as chairman of the Medical Services Commission, it has been my duty to keep the Council informed on the work of the Commission.

Respectfully submitted,

H. L. CAREY, *Councilor-at-Large*

To the President and the House of Delegates:

As Councilor-at-Large I have attended the meetings of the Council of the California Medical Association, and have participated in the affairs of the committees to which I have been assigned. I have continued to sit on the Board of Trustees of the California Physicians' Service and carry out my committee assignments in that organization.

It has been my object to keep in touch with the various counties that have called for any advice regarding the problems of organizational medicine, and I have attended a good many of the meetings of the Council of the Alameda-Contra Costa Medical Association in order to establish closer liaison between that constituent association and the California Medical Association.

Respectfully submitted,

T. ERIC REYNOLDS, *Councilor-at-Large*

To the President and the House of Delegates:

During the past year I have attended all meetings of the Council and with C.M.A. officers have visited county medical societies in Southern California. The studies and reports of the Medical Services Committee, C.P.S., the Industrial Accident Commission and the Public Relations Committee have shown much sincere, hard labor and serious, honest thought on the part of these committees. The work of these and other committees cannot be commended too highly.

The reports were all studied and acted upon in the best judgment of the Council. Public Health, Physicians and Schools, Legislation, Rural Health, Mental Health were other important subjects along with routine items of business to come before the Council and were also acted upon in the Council's best judgment.

The published reports and proceedings of the Council meetings reveal a large number of vital problems and the serious thought that has been given them and all affairs of the Association by the elected officers and employees.

Respectfully submitted,

ARTHUR E. VARDEN, *Councilor-at-Large*

To the President and the House of Delegates:

During the past year I have attended the regularly called meetings of the Council of the California Medical Association. I have participated in all of its deliberations regarding the problems and business of the California Medical Association.

As chairman of the Insurance Committee of the California Medical Association, group health and accident insurance was established for all members of our Association who desired it. The participation was in excess of 68 per cent. Since its inception, we have had many letters complimenting us for the fine insurance program. Many of our members who failed to take advantage of the first opportunity of becoming participants in the plan have requested another open period be established. This open period will occur from January 15 to February 15, 1955. During this time an opportunity will be given any member who did not participate to come in on the same basis as the original. We hope in this way to have a participation exceeding 80 per cent.

Respectfully submitted,

ARTHUR A. KIRCHNER, *Councilor-at-Large*

REPORTS OF COMMITTEES

EXECUTIVE COMMITTEE

To the President and the House of Delegates:

The Executive Committee has held meetings between Council meetings and such special meetings as were necessary. The Executive Committee has handled those matters which have been referred by the Council and other matters requiring emergency action. Routine matters, as well, have been handled by the Executive Committee in an effort to shorten the crowded agenda of the Council.

All actions are subject to confirmation by the Council and subsequently published in California Medicine.

Members of the Executive Committee have given most generously of their time. I particularly wish to thank those members from the southern part of the state for attending the meetings in San Francisco, often on short notice.

Respectfully submitted,

Ivan C. Heron, *Chairman*

COMMITTEE ON ASSOCIATED SOCIETIES AND TECHNICAL GROUPS

To the President and the House of Delegates:

The Committee on Associated Societies and Technical Groups has had nothing referred to it and has held no meetings during the past year.

Respectfully submitted,

H. Gordon MacLean, *Chairman*

AUDITING COMMITTEE

To the President and the House of Delegates:

The budget for the fiscal year 1954-55 was presented to the Council at the annual meeting in Los Angeles, May 1954.

The budget for 1955-56 is now under preparation and will be presented at the next annual meeting. Expenditure items were reviewed month by month.

An audit by a certified public accounting firm found all records of the California Medical Association in good order. This report will be published in California Medicine.

Respectfully submitted,

Ivan C. Heron, *Chairman*

COMMITTEE ON HISTORY AND OBITUARIES

To the President and the House of Delegates:

Since the last report of this committee our journal has carried notices of the passing of 139 of our members, as compared to 137 in 1953. Among these was George H. Kress, long-time editor of our journal and subsequently Honorary Historian to the time of his death. Another well-known to the House of Delegates was Frank Doughty of San Joaquin County, whose active career was brought to an untimely close on October 19th by coronary artery disease.

An appeal is again made by your committee for any and all historical material, minutes, account books, programs, and news items, to be sent to the Society headquarters. This request goes especially to the smaller counties which do not have full-time personnel, or permanent headquarters for the storage and preservation of records. When the history of our State Association is written each integral unit should have included an adequate account of its organization and activities.

Respectfully submitted,

J. Marion Read, *Chairman*

COMMITTEE ON HOSPITALS, DISPENSARIES AND CLINICS

To the President and the House of Delegates:

The Committee on Hospitals, Dispensaries and Clinics, which is an advisory committee, has completed its assignments and presented its reports to the proper authorities.

Respectfully submitted,

Jay J. Crane, *Chairman*

COMMITTEE ON INDUSTRIAL PRACTICE

To the President and the House of Delegates:

As chairman of the Committee on Industrial Practice, I would like to report that with the permission of the California Medical Association I appointed Dr. John E. Kirkpatrick chairman of a subcommittee to evaluate grasping power and make recommendations which will be submitted to the Industrial Accident Commission for its consideration.

Other members of this subcommittee are Dr. J. L. Barritt, Medical Director of the Industrial Accident Commission; Dr. Paul Beddoe, Assistant Medical Director of the Industrial Accident Commission; Dr. A. W. Hoagland, Medical Director, Pacific Indemnity Company; and advisory members, Mr. Eli Welch and Mr. Jerry Crowley of the Rating Bureau of the Industrial Accident Commission. The writer is an ex-officio member.

The subcommittee held its first meeting in San Francisco on December 10 and outlined a program which we hope will at least improve the determination of grasping power, if not solve the problem completely.

No other matters have been considered by the standing committee.

Respectfully submitted,

Packard Thurber, Sr., *Chairman*

COMMITTEE ON MEDICAL ECONOMICS

To the President and the House of Delegates:

The Medical Economics Committee has the following report to make for the official records of 1954.

No business having been submitted, the Committee held no meetings during the year.

With the efficient coverage by the Medical Service Commission there appears to be no special need for the Medical Economics Committee. We recommend this matter to the Council, when reappointments to this Committee are in order.

Respectfully submitted,

L. H. Fraser, *Chairman*

COMMITTEE ON MEDICAL EDUCATION AND MEDICAL INSTITUTIONS

To the President and the House of Delegates:

No items have been presented to the Committee on Medical Education and Medical Institutions for its consideration during the calendar year 1954. For this reason the Committee has not met, and there is no further formal report to make. The Committee stands ready at any time to be of assistance to the officers of the Association or the House of Delegates in the consideration of any matters within its field of responsibility which might be referred to it.

Respectfully submitted,

Walter E. Macpherson, *Chairman*

COMMITTEE ON MILITARY AFFAIRS AND CIVIL DEFENSE

To the President and the House of Delegates:

This is the report of the Committee on Military Affairs and Civil Defense.

The members appointed to this Committee are as follows: William L. Bender, M.D., San Francisco, 1956; Frank F. Schade, M.D., Los Angeles, 1955; Justin J. Stein, M.D., Chairman, Los Angeles, 1957; John C. Ruddock, M.D., (Consultant), Los Angeles.

MILITARY AFFAIRS, SOUTHERN CALIFORNIA

Report of the Southern California Advisory Committee to the Selective Service System and the Armed Forces during 1954:

During the year 1954 the calls from the Armed Forces for Special Registrants (doctors, dentists, and veterinarians) have not been excessive. An attempt has been made by Selective Service to fill the needs of the Armed Forces by those Special Registrants in Priorities I and II who had previously been deferred for essential positions. In addition to the few Priority I and II physicians who were made available for Selective Service, the monthly requests have been filled by Priority III physicians who were born after August 30, 1922.

On June 30, 1955, Public Law 84 will expire and will be replaced by a new law—or no law. Exactly what will happen after that date is, at this writing, uncertain. This will depend upon the size of the Armed Forces (and already the Department of Defense has agreed to reduce the total active-duty military personnel of the Army and Navy) and the needs of the United States for men in active-duty status. Discussions have been held in an attempt to have an increase in the ready Reserve of this country for immediate emergencies; also discussions have been held with regard to some type of universal military training as part of the educational scheme for young men of this nation.

Selective Service System Operations Bulletin No. 121, dated December 8, 1954, has been received which, in brief, covers the following points:

> Local Boards are requesting physical examination of physicians up to the age of 37. A call for 1,275 physicians to be delivered in March 1955 has been placed by the Selective Service System, and to meet this call it was necessary that Priority I, all ages; Priority II, without restriction as to months of service; and Priority III, born on or after January 1, 1917, be used. However, every effort is being made to get available for service all those Priority III young registrants born after August 30, 1922 in this call to protect men of that priority who are older.
>
> Selective Service System has also placed a call for 459 dentists to be delivered in March 1955, in which group will be Priority I, all ages; Priority II, without restriction as to months of service; and Priority III born on or after January 1, 1910.

The Southern California Advisory Committee is processing all Special Registrants who are affected by this order. In conformance with this order, many Special Registrants have received induction notices for March and April 1955. The first of these notices went out in December 1954 so that these Special Registrants could have an opportunity of obtaining a commission before the date of induction. It is anticipated by the National Advisory Committee to Selective Service that all Priority I and II physicians with any amount of obligated service will have their commissions or be in uniform before the expiration of Public Law 84.

Respectfully submitted,

John C. Ruddock, *Chairman*

MILITARY AFFAIRS, NORTHERN CALIFORNIA

It might be said that 1954 has been a year of readjustment to the second doctor-draft law, which was enacted for two years July 1, 1953. By its provisions the liability for military duty changed for many physicians and dentists, including those already serving. On the whole, the new law is more lenient, both as to draft vulnerability and to active duty requirements.

Selective Service System

Since the priorities of many registrants were changed by the act, the year has seen much reevaluation of their status with reference to civilian versus military need for their services. And it is in this field that the chief function of the advisory committees lies.

Priorities I and II having been excused during War II, are most vulnerable to the draft and requests for continued occupational deferment of men in either category are viewed with a critical eye, so that few have not yet been called up. This policy will be even firmer during the months remaining before the expiration of the law. Furthermore, physical reevaluation is provided for those now deferred in IV-F, if there is any reason to believe they may be mentally and physically fit to serve.

Many of the reserve officers of 1954 have come from the young priority III men, without previous military service, especially those young enough to be subject also to the regular draft. Only recently have physicians in priority III over age 31 been called up.

Armed Forces

Since a man receives his commission after our recommendation to Selective Service on his availability, the advisory committees do not assist the Armed Forces in such routine screening. However, the Health Resources Advisory Committee of the Office of Defense Mobilization and the Services do request our advice frequently on individual cases.

Returning Veterans

One of the effects of the current doctor-draft law is more rapid turnover of medical and dental reserve officers, and more returning veterans who indicate a desire to settle in California. The Council on National Defense of the A.M.A. refers such applicants to us. We try to bring men and opportunities together, and I think results justify the effort.

Irrespective of what this Committee can do in individual cases, all names are referred to C.M.A.'s Physician Placement Service, which provides each with an up-to-date list of openings here. Incidentally we have found this service functional and effective and a project to be proud of. More of our members should know about it.

The Future

Just as the office of Defense Mobilization has striven for the efficient use of minimum effective numbers of medical and dental officers in the Armed Forces, it believes, along with other organizations including A.M.A., that the doctor-draft should be terminated if possible at the expiration of the current law June 30, 1955. However, the Department of Defense has just announced that continuation of a doctor-draft law beyond that date is necessary and will be requested of Congress. It was hoped that the yearly crop of graduates would meet military needs. Apparently the project which encourages a portion of new graduates to take some residency training before active duty, and other reasons, leave insufficient numbers of new graduates to meet the estimated needs of the Armed Forces.

However, I am going to assume this will be my last report; there are a lot of people I am grateful to and I want them to know it.

The acceptance of us volunteer amateur advisors by the "old pros" of the Selective Service System and the Armed Forces has far exceeded my most optimistic hope. Throughout the four and one-half years of our contact I have encountered nothing but understanding cooperation. It has seemed as though they felt we made up in sincerity what we lacked in technique.

Our desk and files in C.M.A. headquarters have used much-needed space, I know. The administrative staff has not merely put up with us but has made us feel at home, and has helped in many practical ways.

Finally my salute to the 260 members of our 57 local advisory committees of physicians, dentists and veterinarians who make the basic investigations and recommendations that determine whether or not their fellow-doctor, living and working in the same area, is needed more by the military than by his community, in conformity with a nationwide pattern supervised by the National Advisory Committee. This principle is at once the justification for the advisory committees and the reason for the relatively smooth conduct of an operation not particularly enjoyable to those affected by it.

To the other members of the Northern California Advisory Committee, my heart-felt thanks for their devotion of time and considered thought toward the equitable completion of our assignments.

Respectfully submitted,

William L. Bender, *Chairman*

* * *

CIVIL DEFENSE

The Civil Defense report for 1954 was presented in detail and also consisted of a summation of medical civil defense in California for the years 1951 and 1952.

During the year 1954 additional time and effort was expended upon the following objectives:

Develop further procurement and the supply program for active operations.

To assist in the inventory and inspection of stored medical supplies.

To help develop such procedures as emergency water supplies, sanitation procedures, mass care centers, and other assembly points of people during a disaster.

To help develop further plans and procedures for handling atomic, biological, and chemical warfare casualties.

Develop and change present plans to cope with changing trends in warfare.

Develop further plans for mutual aid between the states.

Shortly after the explosion of the hydrogen bomb a complete reappraisal of the medical civil defense program was made. Many changes were recommended necessitated by information obtained regarding the hydrogen bomb.

Mass dispersal and mass evacuation of the population with its attendant medical problems were studied. Up to the present time little stress had been placed on this phase of civil defense.

Relocation of medical supplies on a more realistic basis with emphasis on storing these supplies about the periphery of potential target areas and less throughout the target area has been recommended.

The urgent need for further planning for mutual aid for both supplies and medical personnel between neighboring states has been considered.

The need for more medical supplies such as Army Mobile Surgical Hospital (MASH) units is apparent. There will be a great need for this type of unit especially located about the periphery of target areas for most of the existing medical installations will probably be destroyed.

The Committee chairman attended the Third Regional Conference of the Federal Civil Defense Administration held at the University of Utah, Salt Lake City, September 1-3, 1954. He also gave talks on civil defense at the two local hospitals at the request of the chairman of the Civil Defense Committee of the Utah State Medical Association.

Dr. Frank Schade has been very active in civil defense in Southern California. He attended the meeting of the Fifth County Medical Societies Civil Defense Conference, Chicago, Illinois, October 30-31, 1954. He was elected Chairman of the Conference for 1955.

The most cordial relations have always been maintained with the personnel of the Division of Medical and Health Services, California State Department of Health. The utmost cooperation has always been obtained and many of the projects listed above have been joint enterprises. Liaison with the State Director of Civil Defense and with the Governor has been maintained by the chairman of the California Medical Association Committee on Military Affairs and Civil Defense also being chairman of the Governor's Emergency Medical Advisory Committee.

Permission has been given for this Committee to prepare a special issue of California Medicine on Civil Defense for release in 1955.

Continual reappraisal of Civil Defense in the light of new developments will always be done and changes made as quickly as feasible. More effective integration and coordination of medical civil defense in California will be sought during 1955.

Respectfully submitted,

Justin J. Stein, *Chairman*

PHYSICIANS' BENEVOLENCE COMMITTEE

To the President and the House of Delegates:

During 1954 the Physicians' Benevolence Committee continued its usual program of providing funds for needy physicians or their families. The activities of the Los Angeles County Physicians' Aid Committee called for the contribution of $6,000 from our fund and other benevolences amounted to $2,422.70. The home maintained in Los Angeles has served admirably in caring for the needy, many of whom are newcomers to the Los Angeles area and are worthy of help from a statewide source.

Financially, the Benevolence Fund showed an increase of $8,366.79 during the calendar year 1954 in net assets. At the start of the year the fund showed $59,808.97 in assets, including $44,000 in U. S. Treasury Bonds. At the year-end, this figure had risen to $68,175.76, the increase representing funds received but not expended.

Cash income during 1954 totaled $16,789.49, of which $12,245.25 came from the appropriation of $1 per active member by the Association. The Woman's Auxiliary contributed another $3,375.88, and $1,168.36 came in from interest on bonds or short-term Treasury bills. Expenditures amounted to $8,422.70.

Your Committee again calls attention to the fact that the endowment fund, originally set at $60,000, has not yet been met and that the value of the dollar, under inflationary influences, would dictate that a higher fund be sought as a means of creating a self-perpetuating endowment from the interest on which benefits might be paid. The House of Delegates is again asked to consider the possibility of increasing the annual appropriation from C.M.A. funds to a level higher than the present $1 per member.

Steps are now being taken to convert the Benevolence Fund into a California nonprofit corporation for charitable purposes. This move will be most helpful in qualifying the fund for tax exemption and permitting it to qualify donors for income tax deductions. At the same time, such a status will eliminate the need of collecting federal entertainment taxes on benefits staged by the Woman's Auxiliary or others for the good of the fund.

Our thanks are again due to the Woman's Auxiliary to the California Medical Association for another generous contribution. The Auxiliary has consistently bettered its own record of contributions to the fund and its members have been tireless in their activities to raise money for this worthy cause.

Thanks are also due to Doctors Elizabeth Mason-Hohl and Ford P. Cady, members of the Committee, who have always been most prompt and sound in their evaluation of requests for aid. Without their help the committee's work would be considerably handicapped. We wish also to thank the Trustees and staff of the Los Angeles County Physicians' Aid Association for their splendid work in behalf of our needy colleagues and their families.

Respectfully submitted,

AXCEL E. ANDERSON, *Chairman*

COMMITTEE ON POSTGRADUATE ACTIVITIES

To the President and the House of Delegates:

During the past year of 1954 your Postgraduate Activities Committee has continued the program already under way since 1950. During the year Edward C. Rosenow, Jr., M.D., of Pasadena, has acted as chairman of the Committee, assisted by Herbert W. Jenkins, M.D., of Sacramento; John E. Young, M.D., of Fresno, and Albert C. Daniels, M.D., of San Francisco, ex-officio. C. A. Broaddus, M.D., of Carmel, has continued to serve as Director of Postgraduate Activities.

The Committee has met officially some six times on Postgraduate business.

We have conducted five two-day Medical and Surgical Institutes; one each at Santa Rosa for the North Coast Counties; at Sacramento for the Sacramento Valley Counties; at Fresno for the San Joaquin Valley Counties; at Santa Barbara for the West Coast Counties; and at Palm Springs for the Southern Counties.

The Circuit Courses were started in the north end of the state with four lectures provided in the fall for Ukiah, Eureka, Woodland and Napa, by lecturers from the University of California School of Medicine; and four for Dunsmuir, Chico, Marysville and Auburn, with lecturers from Stanford University School of Medicine. For this service the registrants pay $25.00 and they will receive a subsequent course of four lectures in the spring of 1955.

These lectures have been arranged by Dr. Jay Ward Smith, Associate Dean of Stanford University School of Medicine, and by Dr. Seymour M. Farber, from the University of California School of Medicine.

Four of the smaller county societies have been provided with special speakers from Los Angeles and San Francisco.

All of our programs have been open without fee to all interns, residents and nurses of recognized hospitals and to medical personnel of the armed forces.

Your Director has assisted in the arrangements for the fall program of eight lectures for the Stockton Postgraduate Study Club, which serves 150 doctors of San Joaquin County neighborhood.

We have enjoyed most cordial relationship with the five medical schools of California. Through cooperation of their special representatives we have been able to have the finest talent of the very excellent faculties of these schools.

We are especially indebted to such men as Dr. Harold M. Walton of the College of Medical Evangelists; Dr. Robert Cleland of the University of Southern California; Dr. Thomas H. Sternberg of the University of California at Los Angeles; Dr. Seymour M. Farber of the University of California; and Dr. Jay Ward Smith of Stanford University. They have cooperated in every respect and given unselfishly of their time and ability to make our programs a success.

The speakers from the faculties have been reimbursed for their travel expenses and in addition by an honorarium of $50 to $100 according to the service rendered. We feel that in addition we owe them a large amount of gratitude for their unselfish service and cooperation.

Your Committee reports with some pride a meeting in Los Angeles on February 26, 1954, attended by the Deans of the five medical schools of California, by the Postgraduate Representatives of these same schools in conference with your Committee on Postgraduate Activities. So far as we are able to discover this is the first time such a fruitful conference has been held in our state. It was productive of great good for our work.

The California Academy of General Practice continues to recognize our service as credit for its members on the list of requirements for Class II Postgraduate requirements.

Several conferences have been held with members of the Regional Committees. On June 6th we held a statewide all-day conference in Los Angeles, attended by over 30 doctors, including the deans of four medical schools; all of the medical school representatives, including Dr. Baldwin Woods of Berkeley, and the members of your standing committee. This is an unique and most important meeting at which work of the past year is reviewed and plans for the coming year made.

June 24th we met representatives from the northern part of California to plan the new circuit course of lectures. This was held in San Francisco, with Dr. Seymour M. Farber of the University of California and Dr. Jay Ward Smith of Stanford.

FINANCIAL STATEMENT

Expenses of Director's Office		
Salaries		
Director	$6,000.00	
Secretary	2,100.00	
Office Rent	900.00	
Printing	1,268.62	
Stationery	218.33	
Postage	401.59	
Telephone	261.59	
Equipment	411.13	
Travel Expense	724.16	
Hotel	921.11	
Casual Help	565.15	
C. M. A. Exhibit	272.53	
Express	51.81	
Annual Conference Travel and Hotel	2,003.81	$16,099.83
Expenses for Institutes		
North Coast Counties	$1,477.00	
West Coast Counties	1,093.04	
Sacramento Valley Counties	2,179.00	
San Joaquin Valley Counties	1,149.79	
Southern Counties	1,590.00	$ 7,488.83
Expenses for Circuit Courses		
Honorarium	$3,200.00	
Travel	400.00	$ 3,600.00
Expenses for County Lectures		
Honorarium	$ 150.00	
Travel	119.27	$ 269.27
Total		$27,457.93
Income from registrations for the year of 1954		
Institutes		
655 registrations	$6,550.00	
Circuits		
150 registrations	3,750.00	$10,300.00

Respectfully submitted,

EDWARD C. ROSENOW, JR., *Chairman*

COMMITTEE ON PUBLIC POLICY AND LEGISLATION

To the President and the House of Delegates:

The year 1954, being election year, your Committee carried on a vigorous program to interest members of our profession in becoming acquainted with candidates for office, particularly those seeking the 80 assembly seats and 20 seats in the State Senate. The Committee met with legislative committees of the allied professions to survey the field of candidates in relation to their views on good public health legislation and the maintaining of high professional standards.

Local committees were formed to assist candidates with proven records, and members were encouraged to become active in their support. The results were satisfactory and brought warm thanks from legislators who have assisted us in our many problems in Sacramento.

The State Senate Interim Committee on Licensing of Businesses and Professions held several meetings under the capable leadership of Senator Luther E. Gibson, its chairman. Representatives of our Committee appeared at all of these meetings and supplied Senators Gibson, Desmond and Kraft with requested information.

The Assembly Interim Committee on Public Health chairmanned by our good friend Wm. Byron Rumford, also held several hearings on public health legislation and our committee was represented at all of these hearings.

The 1955 session of the State Legislature convened on January 3. It is impossible at this writing to present any detailed information on pending bills, but all of the proposed legislation will be studied and referred to the Council for instructions as to the policy of the California Medical Association. We will be calling upon County Society officers and the membership generally for assistance during this period, and are looking forward to your usual prompt and effective cooperation.

Respectfully submitted,

Dwight H. Murray, *Chairman*

COMMITTEE ON PUBLIC RELATIONS

To the President and the House of Delegates:

Speaking at A.M.A.'s Public Relations Conference in Miami on November 28, 1954, President-elect Elmer Hess stated that he had read reams of material on public relations and ethics but it could all be summed up in the single sentence:

"Doctors are dedicated to taking care of sick people!"

It was superfluous to explain it meant being available to take care of patients in time of an emergency and to provide that care without regard to ability to pay.

Your Public Relations Department, since the day it was established, has been furthering that concept of the physicians' dedication in interpreting the services of the profession to the public.

There are many indications that it is succeeding!

Currently C.M.A. is providing physician-members with a series of personal messages to mail to patients. These messages cover some of the "grass roots," fundamental public relations projects of the profession.

Since the effort *originates in the individual doctor's office* and advises *his patient* of *his individual interest* in that patient's welfare; *his willingness to be the patient's "health engineer,"* we believe it to be of the *greatest possible public relations value.*

"A Personal Message to YOU" tells the patient where the physician may be reached in an emergency.

"Certainly, Let's Talk About Fees" explains the physician's willingness to discuss economic matters with his patient since "the best medical care is based on a friendly mutual understanding between doctor and patient."

"Health Insurance Is GOOD Medicine" is a reminder of the profession's sponsorship of California Physicians' Service. With this message goes C.M.A.'s small folder on the various types of medical care coverage. This pamphlet was prepared in cooperation with the Medical Services Commission. Insurance companies have aided the profession in the distribution of this piece of literature that has won nationwide acclaim.

"About The Cost of GOOD Medical Care" emphasizes the physician's desire to assist in the patient's medical care cost problems—even those beyond his "direct control."

California physicians, in our opinion, should derive considerable pride from the fact that, collectively, they have sent more than one million of these messags to California families. This million total becomes more meaningful when compared with the output of A.M.A.'s Public Relations Department and, where serving the entire nation, they have distributed slightly more than twice this number of pieces of professional literature in an entire year.

Again on a comparative note: There are more than 7,000 A.M.A. plaques in the offices of California physicians. This, we are told, is a greater total than for the rest of the 47 states!

The newspapers, one of the barometers on the operation of this department, have been quick to publicize and salute this public service—this *personal* service!

The press is also a barometer on physician-patient relationships.

If the profession were not meeting its expected obligations, this dereliction would be reflected in editorial criticism.

Such is not the case!

While there are still a few newspapers in the State which espouse the cause of socialized medicine, there are none of any consequence which can be classified as "carping critics" of the profession's services to patients.

This situation exists because individual county society officers and executives have made a sincere effort to acquaint the press of local problems and to secure cooperation. It stems too from the fact that every county society has as a primary public relations project the perpetuation and perfecting of its 'round-the-clock emergency medical care program.

Though now a two-man operation, your public relations personnel has continued to be of service to all C.M.A. committees and to be "on call" for all county societies.

This has meant, in part, the assistance in the production of TV programs, the preparation of news releases and the distribution of our mimeographed "Bulletin" to presidents and secretaries of all county societies and others so that they may be kept abreast of the developments on the medical care fronts.

In this, as in our many other activities, we've enjoyed the intelligent cooperation of county society officers, executive secretaries, California Physicians' Service executives, and the C.M.A. headquarters staff.

While we've assisted in the scheduling and doing the background mechanics for countless meetings during the past year, two of those meetings, we believe, deserve more than passing mention.

The first was the "Public Relations and Office Management Convention" of the Student American Medical Association held in Los Angeles on April 25. It was sponsored by the medical students of the University of Southern California, University of California at Los Angeles and the College of Medical Evangelists in cooperation with the Los Angeles County Medical Association and C.M.A.

More than 400 residents, interns and students attended the all-day session to hear presentations by outstanding physicians on subjects ranging all the way from "Winning Ways with Patients" to "Out of the Military Service and Into Medical Practice."

Because of the acclaim of both students and physicians, future meetings are being planned.

The second meeting was the CMA-sponsored "Conference on Physicians and Schools" held in Fresno on November 12 and 13. Due largely to the fine participation of the physicians and the cooperation of leaders from the field of education and the Parent-Teachers Association, this initial effort was proclaimed exceptionally worthwhile.

Its real value, however, as explained by President A. A. Morrison in his closing address of the session, will depend upon how much of the "state level" program is put into action by physicians and educators at the "local level." The planned local and regional conferences, we believe, will attain that objective.

Early in the summer the profession's Medical Services Commission, local physicians and the Public Relations Department participated in the first of a series of UCLA-sponsored "Health and Welfare Plans" conferences with Labor's health plan consultants, medical care plan executives and representatives of the insurance industry. Thus far, these conferences have largely been exploratory in nature. However, it is most evident that, if the policy of mutual appreciation of the problems of all parties concerned is *maintained by all parties,* much eventual good can be accomplished.

From this brief resume of the positive accomplishments of the profession as a whole and the individual efforts of individual physicians expanding the concept of the personal relationship between physician and patient, there is ample room for pointing with pride on "Operations 1954."

With the permission of the President and the members of the House of Delegates we would like the privilege of making a supplementary report from the floor at the 1955 meeting of the Association.

On behalf of my associate, Mr. Glenn W. Gillette, and the undersigned, this report is

Respectfully submitted,

Ed Clancy, *Director*

COMMITTEE ON SCIENTIFIC WORK

To the President and the House of Delegates:

The Committee on Scientific Work met twice during the past year, and each time with the section officers.

The Annual Session will be four days in length, but this time the Scientific Sessions will be held concurrently with the House of Delegates. This was considered necessary because of the separation of the House of Delegates from the Scientific part of the meeting, due to the necessary adjustments for space in San Francisco. It should be pointed out to the members that meetings in San Francisco will always require use of space in widely separated localities. Hence, smaller, well organized and closely knit meetings, such as have been held in Los Angeles, cannot be held here.

The Committee wishes to thank Mrs. Barbara Rooney and Mr. Robert Thomas for the great amount of time and effort they put in on the arrangements for the Annual Session, and Mr. Robert Edwards for his assistance with the press arrangements.

Respectfully submitted,

Albert C. Daniels, *Chairman*

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

To the President and the House of Delegates:

The C.M.A. delegation to the A.M.A. has been very active during the past year. All of the delegates and alternate delegates have done their part cheerfully, whenever called upon to do so.

The Resolutions of the C.M.A. House of Delegates to the A.M.A. were presented as requested at the winter meeting of the A.M.A. There were no resolutions to present at the last Annual Meeting of the A.M.A.

Your Delegates have served well on committees, and in several instances have been chairmen of committees.

At the winter meeting of the A.M.A. at Miami, Florida, the delegation let it be known that Dr. Dwight Murray, at present Chairman of the Board of Trustees of the American Medical Association, will be a candidate for the office of President-elect of the A.M.A. in June, 1955. Dr. Murray's record speaks for itself, and the delegation will undoubtedly give him its fullest support.

It is the opinion of the chairman of this delegation that the alternate delegates should be given the opportunity to attend the meetings of the House of Delegates of the A.M.A., and that at least one meeting during each two-year term would be sufficient to gain the necessary experience which is needed by future delegates.

Respectfully submitted,

H. Gordon MacLean, *Chairman*

ADVISORY PLANNING COMMITTEE

To the President and the House of Delegates:

The Advisory Planning Committee has met, as in the past few years, on the day preceding each meeting of the Council. This arrangement permits the county society executive secretaries to consider in advance the problems which will come before the Council on the following day and, where possible, to remain over and attend the Council meetings.

During the past year this committee has concerned itself primarily with matters of public relations and the various considerations coming before the Medical Services Commission. By holding its meetings at the scheduled times, the committee is able to keep abreast of developments in the fields of prepaid medical care insurance, medical economics and public relations. Information developed or discussed at committee meetings is readily translated into county society discussion or action through the county executive secretaries who comprise the bulk of the committee.

Recommendations of the committee go to the Council for consideration and action. The committee has no original authority.

In the past year the committee has been pleased to have two new members added, Mr. Robert Marvin, business secretary of the Riverside County Medical Association, and Mrs. Olive Neick, executive secretary of the San Francisco Medical Society.

Recommendations of the committee to the Council have been reported as part of the Council minutes.

Respectfully submitted,

John Hunton, *Chairman*

REPORT OF THE EDITORIAL BOARD

To the President and the House of Delegates:

With the approval of the Council, Dr. John D. Camp of Los Angeles was appointed to the Radiology Section of the Editorial Board to fill the vacancy made by the resignation of Dr. John W. Crossan, also of Los Angeles. Dr.

John Martin Askey of Los Angeles resigned from the board during the year and as yet no one has been named to his place.

The board did not meet during the year but it is planned to hold a meeting in San Francisco this year at the time of the Annual Session of the California Medical Association.

The members of the board are:

Chairman of the Board:
Dwight L. Wilbur, San Francisco

Executive Committee:
Albert J. Scholl, Los Angeles
H. J. Templeton, Oakland
Edgar Wayburn, San Francisco
Dwight L. Wilbur, San Francisco

Allergy:
Edmund L. Keeney, San Diego
Samuel H. Hurwitz, San Francisco

Anesthesiology:
William B. Neff, Redwood City
Charles F. McCuskey, Los Angeles

Dermatology and Syphilology:
Paul D. Foster, Los Angeles
H. J. Templeton, Oakland

Ear, Nose and Throat:
Lawrence K. Gundrum, Los Angeles
Lewis Morrison, San Francisco

Eye:
Frederick C. Cordes, San Francisco
A. R. Robbins, Los Angeles

General Practice:
James E. Reeves, San Diego
John G. Walsh, Sacramento

General Surgery:
Frederick L. Reichert, San Francisco
C. J. Baumgartner, Beverly Hills

Industrial Medicine and Surgery:
Rutherford T. Johnstone, Los Angeles
John E. Kirkpatrick, San Francisco

Internal Medicine:
Maurice Sokolow, San Francisco
O. C. Railsback, Woodland
Edgar Wayburn, San Francisco
W. E. Macpherson, Los Angeles

Obstetrics and Gynecology:
Daniel G. Morton, Los Angeles
Donald G. Tollefson, Los Angeles

Orthopedic Surgery:
Frederick C. Bost, San Francisco
Hugh Jones, Los Angeles

Pathology and Bacteriology:
Alvin G. Foord, Pasadena
Alvin J. Cox, San Francisco

Pediatrics:
E. Earl Moody, Los Angeles
William G. Deamer, San Francisco

Pharmacology:
Hamilton H. Anderson, San Francisco
Clinton H. Thienes, Los Angeles

Plastic Surgery:
George W. Pierce, San Francisco
William S. Kiskadden, Los Angeles

Psychiatry and Neurology:
Karl M. Bowman, San Francisco
John B. Doyle, Los Angeles

Public Health:
George Uhl, Los Angeles
Charles E. Smith, Berkeley

Radiology:
R. R. Newell, San Francisco
John D. Camp, Los Angeles

Thoracic Surgery:
John C. Jones, Los Angeles
H. Brodie Stephens, San Francisco

Urology:
Lyle Craig, Pasadena
Albert J. Scholl, Los Angeles

Respectfully submitted,

DWIGHT L. WILBUR, *Chairman*

BLOOD BANK COMMISSION

To the President and the House of Delegates:

The year 1954 was a busy one for the eleven blood banks presently comprising the California "life line." A total of 142,227 units of blood or blood derivatives was procured, processed and dispensed, representing a 9.43 per cent increase over 1953. Bloods dispensed by the Delta Blood Bank, which opened in June 1954, are not included in this comparison.

This last year was particularly valuable to us in that we were able to reevaluate lessons learned during the bludgeoning Korean War days in coping with unpredictable donor loads. Resiliency of operation is a basic phenomenon in blood banking. Lack of adaptation can make or break a bank financially. Our business methods must be accurate, aggressive, adequate and advanced, for being a nonprofit corporation, we are constantly balanced on the razor edge of financial solvency.

The Blood Bank Commission—We lost a loyal and valued member in the death of Dr. Herbert Messinger of Napa, in August 1954. Dr. Gerald K. Ridge of Ventura has been quite ill, but we are happy to report "Gerry" is mending rapidly. Dr. Malcolm Merrill asked to resign because of his increased professional responsibilities as Director of the California State Department of Public Health. As yet we have not accepted his resignation. He is too valuable a member! In the near future the Blood Bank Commission will be reduced in numbers to a more workable integrated unit.

Annual Meeting of the California Blood Bank System—It was held in Sacramento, February 20-21, 1954, with the Sacramento Medical Foundation Blood Bank acting as host. John Elliott of Florida was one of our guest speakers. We regret that this pioneer research worker in blood died on August 11, 1954. Our 1955 meeting will be held in Santa Rosa, February 25-27. For details of this meeting, read the announcement in the February issue of CALIFORNIA MEDICINE.

Highlights—(a) French Indo-China Blood Program. Although short-lived because of the fall of Dien Bien Phu, we were able to get plasma to that garrison and to its wounded before the fort capitulated. The resulting international publicity and goodwill earned for California medicine was substantial. (See Exhibit A.)

(b) The harmonious transfer of the San Joaquin Valley Regional Red Cross Blood Bank to the San Joaquin Medical Society, which took place June 30, 1954. The Delta Blood Bank, located in Stockton, now serves 390,000 persons. We welcome this bank to our expanding family "life line."

(c) Increasing correspondence with several foreign nations resulted in a valuable exchange of ideas, techniques and problems unique to our work.

(d) Steady expansion of our Clearing House activities continues. Our California plan has set an example for the nation. We are happy to report greatly improved reciprocal relations with local, area and national Red Cross agencies.

(e) We congratulate the San Diego Blood Bank for having paid in full its non-interest CMA loan.

Exhibits—The following were shown during 1954:

1. CMA convention in Los Angeles, May 1954.
2. AMA convention in San Francisco, June 1954.
3. AABB convention in Washington, D.C., September 1954 (received an award).
4. Kern County Fair, Bakersfield, September 1954.
5. Sacramento State Fair, Sacramento, September 1954.

Blood Service Cost—Due to a constantly rising salary scale, shorter work week and mounting cost of all products used in blood banking, several of the system banks increased their blood unit fee to meet these rising costs of operation.

National Blood Foundation—Slow but basic work continues in the development of a realistic national blood program. There has been a greater tendency to compromise long-standing differences by the five participating agencies. The outlook is optimistic.

Future Plans for California Blood Bank System—(a) Emphasis on administrative and technical standardization throughout all banks. (b) Tightening of interbank coordination and integration. (c) Present a yearly financial report to the Executive Council from all member banks in the System. (e) Create a subcommittee on Legal Defense for the specific purpose of reviewing, analyzing, and judging any malpractice suits brought against any bank operating within our system.

To the President, to the Council, to members of the House of Delegates and to my fellow CMA Blood Bank Commission members, my thanks for your greatly appreciated aid and support. Our work has been lightened and brightened by John Hunton and his most capable and cooperative staff. To our closely knit family of blood bankers, my admiration and gratitude for another year of fruitful teamwork, of patient understanding and continued loyalty.

Respectfully submitted,

JOHN R. UPTON, *Chairman*

EXHIBIT A

TELEGRAM FROM SAIGON

May 11, 1954

"The first consignment of plasma and other blood derivatives arrived here today and on behalf of General Henri Navarre, Commander in Chief in Indo-China and myself could you express to the Officers of the California Blood Bank System and the people of California, our sincere thanks for this manifestation of solidarity which will be greatly appreciated by the fighting men in Indo-China. I am deeply touched in learning that in California the blood fund for our wounded men started today. In the painful hours we are living such testimonies of friendship and generosity are of great comfort.

MAURICE DEJEAN
Ambassador of France
French Commissioner General
in Indo-China"

CANCER COMMISSION

To the President and the House of Delegates:

Since my last report to you a year ago, the activities of the Cancer Commission have continued along the lines established during the 23 years the Commission has been in operation. I am pleased to report that the various projects developed over the years are for the most part maintaining a satisfactory tempo and in most instances I can report a definite increase.

The Commission is continuing the investigation of remedies alleged to be of value in the treatment of cancer. As only a few new remedies have appeared on the horizon during the year, the work has been directed mainly towards further investigation of those already known to us and the reporting of our findings in CALIFORNIA MEDICINE.

Our studies reveal that the use of "Laetrile"[1] has markedly decreased; but, unfortunately, the use of "Arginase" (Hepasyn)[2] and Gregomycin[3] has not diminished in the same ratio. In an attempt to keep the physicians as fully informed as possible concerning these useless remedies, we have asked the editors of all county medical journals to reprint any Cancer Commission studies that appear in CALIFORNIA MEDICINE.

We are grateful to Dr. Dwight L. Wilbur, editor of CALIFORNIA MEDICINE, not only for his splendid cooperation in publishing all the material prepared by the Commission, but also his willingness to have the county societies reprint it in their journals.

In the late summer, literature on Krebiozen was distributed to all physicians of the state by the Krebiozen Research Foundation of Chicago. A commentary appeared on this in CALIFORNIA MEDICINE.[4]

A number of new remedies are under consideration by the Commission and will be reported as soon as sufficient information has been accumulated.

The Commission has received national recognition by the American Cancer Society for the work it has done in bringing out into the open information about these worthless remedies. According to the Society, California is the first state medical association to undertake any such study.

Physicians and the general public have both directed a great many questions to the Commission about those remedies directly studied by the Commission as well as others that are flourishing in other parts of the country. As our files are rather complete on this subject, we were able to give authentic information to physicians and to direct the public into competent medical channels. The Committee on Research of the American Medical Association has recognized the Commission's pioneering effort. and an article in the *Journal of the American Medical Association* is being planned.

These efforts will increase during the coming year. Protection of the public remains our one aim; we can only fulfill this aim by continued effort.

Other activities of the Cancer Commission may be summarized as follows:

1. During the year 67 hospitals in the state were visited by the Medical Director to obtain information concerning the operation of their Consultative Tumor Boards. As a result of these visits, 58 Tumor Boards were granted full approval, 8 were granted provisional approval, and 3 were not approved. Tumor Boards continue to serve a very useful function by offering the physician consultation concerning diagnostic and therapeutic problems, and by being the focal point of professional education in the field of cancer. The latter function of the Tumor Board is very important and deserves continuing emphasis and development.

Several hospitals have sought help in the organization of a Tumor Board, and it is encouraging that most of these are from hospitals at quite some distance from our large medical centers.

The American Cancer Society has given financial aid to many of the Tumor Boards for secretarial help, visual aid equipment and consumable supplies. Without this generous support, it would have been difficult or even impossible for many of the Boards to carry on their work.

2. The Commission continues to be active in professional education. Nineteen Cancer Conferences were held at as many county medical society meetings throughout the year. These Conferences continue to be popular with the physicians, as is evidenced by the fact that of a total membership of 2,290 physicians, 1,055 or 45 per cent appeared at the Cancer Conferences. To us this attests to the popularity and the need for continuation of this project.

Special thanks are due the busy physicians who took the time to appear as speakers at the Conferences. The willingness of these physicians to travel many miles, often late at night, and the many other sacrifices that they have made to attend these meetings all over the State is another indication of their value.

We plan to continue and expand this program during the coming year.

3. A joint meeting between the Southwestern Region of the College of American Pathologists and the annual mid-

winter Conference on Tumor Tissue Registry of the Cancer Commission was held in Phoenix, Arizona, on December 11, under the chairmanship of Russell Fisher, M.D.

4. The Annual Pre-Convention Conferences in Tumor Pathology and Radiology will be held, as usual, just prior to the Annual Meeting of the California Medical Association in May, 1955.

5. The Tumor Tissue Registry continues to be active and is serving well both pathologists and clinicians on a statewide basis. Ten study groups are now meeting monthly in various parts of the state, utilizing material supplied by the Registry. There are three diagnostic groups that meet monthly to review newly submitted material. During the past year 1,680 new cases have been added to the Registry, bringing the grand total of cases now in registry to 7,516.

The Registry contains a wealth of information which is being used to increase our knowledge of cancer, not only on the postgraduate level, but is being used extensively for undergraduate instruction. A study is now under way to develop ways and means of further increasing the usefulness of the Registry. It is expected that this study will result in wider dissemination of information than is now possible under the present operating procedure.

6. *CA: A Bulletin of Cancer Progress* is still being distributed to the physicians of the state who have indicated a desire to receive it. This is a joint project of the Commission and the American Cancer Society, California Division. Various methods are being studied as to how we might effectively increase the circulation of this *Bulletin* and how the mailing list can be kept up-to-date.

7. The Commission feels that any successful program of cancer control must function effectively in each county. Within the year the brochure entitled "The Cancer Committee of the County Medical Society" has been revised and sent to the county medical societies. This brochure outlines the Commission's ideas on the organization, functions and responsibilities of a Cancer Committee. It is intended as a guide to the county medical society in the planning of a comprehensive program in their county. In his travels around the state, the Medical Director has been meeting with the Cancer Committees of the county medical societies in order to promote a closer liaison between the Commission and the Committees, and also between the Committees and the various branches of the American Cancer Society. Such meetings have been most beneficial to the Commission and we hope they have been of some value to the Committees and the branches.

8. Detection of asymptomatic cancer remains our greatest weapon against the disease. Physicians are still seeing far too many patients for the first time when the disease is diagnosed as "late." With this in mind, the Commission developed a pamphlet for public distribution entitled *"Cancer Detection" Examination.* In it is discussed the desirability of having periodic physical surveys, and what type of an examination one might expect to receive. We are pleased to report that the response from the medical profession to this pamphlet has been most gratifying. General distribution to the public is being made through the cooperation of the various county branches of the American Cancer Society, California Division. Many physicians have requested a supply of the pamphlets for use in their waiting rooms and for inclusion with their monthly statements. The publication of this was made possible by the generous financial support given the Commission by the California Division.

9. During the year the American Cancer Society monographs, "Cancer of the Female Genital Tract" and "Cancer of the Thyroid," were distributed to the physicians of the State. A commentary prepared for the Commission on the "Cancer of the Female Genital Tract" monograph appeared in CALIFORNIA MEDICINE.[5]

It is with increased pleasure and satisfaction that each year the Commission acknowledges the successful cooperative efforts which it enjoys with the American Cancer Society, California Division. The Commission also continues a most helpful liaison with the Bureau of Chronic Diseases of the California Department of Public Health.

During the year the Commission was fortunate in securing Walter E. Batchelder, M.D., as Medical Director to succeed Franklyn Hill, M.D., who resigned after three years of loyal service. Doctor Batchelder, formerly Assistant Director of the American College of Surgeons, in charge of its program in cancer, has also been appointed as Medical and Scientific Director of the California Division of the American Cancer Society. His long experience in cancer control is most valuable in facilitating the work of the Commission.

The writer, now completing a third year as Chairman, is deeply indebted to the members of the Commission and its Advisory Committee for their effort, and to the Council and the House of Delegates for their strong support of the Commission's program. In particular, the Chairman is grateful for the continuously effective and mutually pleasant working relationship with the other two members of the Executive Committee, David A. Wood, Vice-Chairman, and L. Henry Garland, Secretary. The contribution of Doctor Garland, especially, has been of such magnitude that it constitutes an integral factor in the success of the Commission's work.

REFERENCES

1. The Treatment of Cancer with "Laetriles," Calif. Med., 78:320-326, April 1953.

2. The Treatment of Cancer with "Arginase," Calif. Med., 79:248-255, Sept. 1953.

3. The Treatment of Cancer by John E. Gregory, M.D., Calif. Med., 80:327-335, April 1954.

4. Krebiozen Again, Calif. Med., 81:359, Nov. 1954.

5. Treatment of Carcinoma of Uterine Cervix, Calif. Med., 81:97-98, Aug. 1954.

Respectfully submitted,

IAN G. MACDONALD, *Chairman*

MEDICAL SERVICES COMMISSION

To the President and the House of Delegates:

At the May 1954 meeting of the House of Delegates, the membership of the Medical Services Commission was increased from nine to twelve. Since that time, both the Commission and its executive committee have each held four meetings.

The resolutions referred to the Commission by the House of Delegates have all been considered and acted upon. Resolutions numbered 9 and 11 were referred to the subcommittee on Principles of Fee Schedules. Resolution No. 24 was tabled.

Last year, the Commission prepared a tentative set of principles to be used as a guide in evaluating medical care insurance. These principles have been sent to all county medical societies. The need for the development of a set of principles continues to exist; the Commission is aware of this need and is continuing its study on this problem.

During the year, a number of county medical societies began to take surveys of usual fees, acting in accord with the instructions of the House of Delegates to implement the Usual Fee Indemnity Plan as quickly as possible. In trying to compare the results of some of these surveys, the Commission found that it was impossible to do so, mainly because of the lack of any uniform coding or standardized terminology. The Commission recommends that any society planning to implement the Usual Fee Indemnity Plan use the coding and nomenclature of the Blue Cross-Blue Shield Actuarial and Statistical Manual since this manual is being used by most Blue Shield and Blue Cross Plans throughout the country. The Relative Value Fee Study undertaken by the Commission followed this manual very closely, and CPS is planning to convert its present coding and terminology to that outlined in the manual as quickly as possible.

The results of the Relative Value Fee Study are being studied and it is the hope of the Commission to present to the House of Delegates a relative value fee schedule in terms of units at the May, 1955 meeting. The Commission has retained Mr. Ralph Nelson, actuary for the City of San Francisco and the actuarial firm of Coates, Herfurth & England, to assist and advise. County Medical Societies may obtain the results of the survey of their own county upon request.

At the December 1953 Interim Session of the House of Delegates, a resolution was referred to the Commission calling for the development of a standardized uniform claim form. The Commission appointed a subcommittee, chairmanned by William Kaiser, M.D., Berkeley, to work on the development of such a form. This subcommittee has met with the California Committee of the Health Insurance Council and with a special committee appointed by the Health Plan Consultants Committee of Los Angeles. This latter group represents organized labor in Southern California. At the time of this writing, the subcommittee is deep in its assignment.

Multiphasic screening has received considerable impetus during the past year. Screening programs have been conducted in Los Angeles and Stockton, with organized labor taking a very active interest. Because of the growing need for some policy on screening programs, the Commission has appointed a subcommittee, chairmanned by Robert Shelton, M.D., Pasadena, to study this matter.

Following the dictates of the House, the Commission has appointed Lester B. Lawrence, M.D., Oakland, as chairman of a committee to investigate the feasibility of conducting a statewide survey on the economics of medicine. At present, it is planned to make a pilot survey in Riverside and Santa Clara counties to determine if the information that will be needed is available, and also to find out what the approximate cost of a statewide survey will be if it is deemed necessary.

California is facing a unique problem with the growing aged population. Los Angeles County is the area most directly involved since it has the largest number of aged on a percentage of population basis than any other county in the state. Closely connected with this growing problem is the need for better indigent medical care programs throughout the state. The Commission is currently studying both the aged and indigent problems, and hopes to have some concrete suggestions for the profession soon.

The Commission continues to favor indemnity insurance and has met with a representative of the Fireman's Fund Insurance Company to discuss the experimental, deductible medical care insurance plan being underwritten by this firm for its own employees.

Medical care insurance in California continues to grow at a rapid rate. The trend is for the employer to pay the total cost, with both management and organized labor becoming increasingly interested in the cost of medical care. The Commission recommends that the study committees of each county medical society continue to meet with both employer and union representatives in an effort to provide all possible assistance in solving these problems.

The Commission further recommends that those county societies that do not have study committees consider again the advisability of establishing such a committee. At present, only 29 county societies have active study committees.

The Health Plan Consultants Committee, with the assistance of the Institute of Industrial Relations at University of California at Los Angeles, has sponsored five two-day conferences on health and welfare plans. Representatives from the Commission have attended each conference and a considerable amount of reference material has been furnished the participating medical societies. These meetings were held in Santa Barbara, Santa Monica, Long Beach, Berkeley and Los Angeles.

The Commission's Subcommittee on Principles of Fee Schedules, chairmanned by Francis J. Cox, M.D., San Francisco, has been designated by the Executive Committee of the California Medical Association as the committee appointed by the Council of the California Medical Association to revise the CPS fee schedule and to report its actions to the Commission and through it to the Council for transmittal to the Board of Trustees of CPS. The Board of Trustees of CPS has final authority for adopting a fee schedule. This committee has recommended increases in the CPS fee schedule, and has also tried to meet with all interested organizations regarding the $4200-$6000 income ceiling schedule of CPS.

One of the major problems facing the Commission has been the dissemination of information to the CMA membership. In order to acquaint the county medical societies with matters under consideration by the Commission and our deliberations and decisions, it was voted to pay the travel expenses of the chairmen of the county societies' study committees to the Commission's meetings. When the Commission meets in the southern part of the state, the chairmen of the study committees located south of the Tehachapis are invited, and conversely, when the Commission meets in the north. We feel the expense is most certainly justified and plan to continue this practice.

The Medical Services Commission is planning to continue its study of all programs and developments in the medical care insurance field.

Respectfully submitted,
HENRY GIBBONS, III, *Secretary*

COMMITTEE ON INDUSTRIAL HEALTH

To the President and the House of Delegates:

Your special Committee on Industrial Health carried out no formal activity in the past year upon which to report. Individual members have contributed generously to the activities in industrial health of a variety of nonofficial agencies, medical or health associations and educational institutions.

Your special committee was appointed several years ago to study the problem raised by the subject of "Standing Orders for Nurses." With the active assistance of the California State Nurses Association this problem seems to have been adequately met. At least the chairman of your committee has been hesitant to initiate new activities in view of the fact that the original problem of the committee seemed to have been completed. He was even more reluctant to see the committee dissolved. With the increase of industry in California, together with the increased activity of the Council of Industrial Health of the A.M.A. and correspondingly more active programs of the standing committees of industrial health of many other state medical associations, a greater, rather than a lessened, interest by the C.M.A. in industrial health seemed to be in order.

Closely coincident with the date on which the report of the committee was due, the Council of the C.M.A. appointed a Committee to Study Committees.

It is respectfully suggested that the Committee to Study Committees give consideration to the proposal to establish a standing Committee on Industrial Health with portfolio to initiate a broader program in this area than has hitherto been undertaken.

Rather than elaborate in this report on the possible programs which might be adopted by such a committee, it is suggested that some of the physicians prominently identified with industrial health, of whom there are now many more than there were some years ago, be given an opportunity to express their views on the needs for such a committee or on the merit of the proposal.

Respectfully submitted,

Christopher Leggo, *Chairman*

COMMITTEE ON RURAL HEALTH

To the President and the House of Delegates:

The year 1954 has seen the Committee on Rural Health attempt to implement the program and recommendations of previous years. Emphasis has been placed on wider participation by physicians in community affairs. As a result, it is our considered opinion that physicians in California comprising the membership of the California Medical Association are increasingly taking part in a wider variety of community affairs than heretofore. Thus, it is not uncommon to find names of physicians as members of grand juries, school boards, health councils, citizen advisory groups, etc. These contributions taken together with those concerned more directly with county medical society affairs have done much to cement friendships within and without the profession.

The committee has maintained continued vigilance in respect to problems growing out of California's migrant population. We can report that there has been little if any evidence of inadequate medical and health coverage of this segment of society which involves the several great agricultural areas of California.

One of the chief interests and activities of the committee has been the cosponsorship of a statewide Conference on Rural Health to be held in Fresno February 11-12, 1955. Much of the programming of the conference has been contributed to by members of the Rural Health Committee who have worked and are continuing to work with representatives from the State Department of Public Health, The Farm Bureau Federation, Congress of Parents and Teachers and the University of California Extension Service and School of Public Health in the development of a statewide program. Physician participation in the forthcoming Conference is noteworthy representing contributions from many including the president of our association.

The Committee feels that there is still a need and will be for some time for rural health committees within each county medical society. So protean are the activities of these groups that the committee is recommending to the Council of the California Medical Association that its name be changed from "Committee on Rural Health" to that of "Committee on Rural and Community Health."

The work of this committee would be made much more difficult if not impossible were it not for the able assistance of CMA's administrative staff in general and the Public Relations Department in particular.

Respectfully submitted,

Henry A. Randel, *Chairman*

ROOM DIRECTORY

C.M.A. Office	Room A, Sheraton-Palace Hotel
Pressrooms	Room B, Sheraton-Palace Hotel and Room 409, Civic Auditorium

Reference Committee Rooms—Sheraton-Palace Hotel

Reference Committee No. 1— Reports of Officers, Council, Standing and Special Committees	Room 2005
Reference Committee No. 2— Finance—Reports of Secretary-Treasurer, Executive Secretary and Budget	Room 2051
Reference Committee No. 3— Resolutions, New and Miscellaneous Business	English Room
Reference Committee No. 4— Amendments to the Constitution and By-Laws	Room 2006
Reference Committee on C.P.S. Business	Room 2127

(Meeting places subject to change)

ROSTER OF COUNTY MEDICAL SOCIETIES, CALIFORNIA MEDICAL ASSOCIATION

(County society secretaries are requested to notify California Medicine promptly when changes are indicated in their roster information.)

Alameda-Contra Costa Medical Assn., 6230 Claremont Avenue, Oakland 18. Meets Third Monday, 8:15 p.m., Hunter Hall, Oakland.
Pres., Harold P. Maloney, 411 30th St., Oakland.
Secy., Thomas Dozier, 512 5th St., Antioch.

Butte-Glenn Medical Society. Meets Fourth Thursday.
Pres., Frank O'Neill, 1334 Myers St., Oroville.
Secy., Phillip Morgans, 360 E. 1st St., Chico.

Fresno County Medical Society, 616 Security Bank Building, Fresno. Meets Second Tuesday, 6:30 p.m., Sunnyside Country Club.
Pres., Charles S. Mitchell, 1316 Olive Ave., Fresno.
Secy., William L. Argo, 1759 Fulton, Fresno.

Humboldt County Medical Society. Meets Second Thursday.
Pres., Shiras Jarvis, 730 7th St., Eureka.
Secy., Herman A. Iverson, 507 F St., Eureka.

Imperial County Medical Society. Meets Second Tuesday, 8 p.m., Pioneer Memorial Hospital, Brawley.
Pres., Edgar A. Thompson, Pioneer Memorial Hospital, Brawley.
Secy., Ernest Brock, 200 S. Imperial Ave., Imperial.

Inyo-Mono County Medical Society. Meets Fourth Tuesday except December, January, February.
Pres., C. L. Scott, 287 Academy, Bishop.
Secy., Robert W. Denton, 611 W. Line, Bishop.

Kern County Medical Society, 1300 Chester Avenue, Bakersfield. Meets Third Tuesday, 7:30 p.m., Stockdale Country Club except June, July, August.
Pres., J. M. Hayes, 2531 G St., Bakersfield.
Secy., John R. Almklov, 2441 G St., Bakersfield.

Kings County Medical Society. Meets Second Monday, 8:00 p.m., Legion Hall, Hanford.
Pres., Edwin E. Kerr, Van Sicklen Bldg., Hanford.
Secy., Howard A. Francis, Van Sicklen Bldg., Hanford.

Lassen-Plumas-Modoc County Medical Society. Meets on call.
Pres., Charles W. Brown, Western Pacific Hospital, Portola.
Secy., William B. McKnight, Quincy.

Los Angeles County Medical Assn., 1925 Wilshire Blvd., Los Angeles 57. Meets First and Third Thursdays, 1925 Wilshire Blvd., Los Angeles.
Pres., Ewing L. Turner, 1930 Wilshire Blvd., Los Angeles 57.
Secy., J. Norman O'Neill, 1930 Wilshire Blvd., Los Angeles 57.

Madera County Medical Society.
Pres., Gilbert G. Daggett, 500 E. Yosemite Ave., Madera.
Secy., Robert B. Rowe, 525 E. Yosemite Ave., Madera.

Marin County Medical Society, 711 "D" St., San Rafael. Meets Fourth Thursday of every month, 7:00 p.m.
Pres., C. W. Russell, 711 D St., San Rafael.
Secy., Wm. Burgett Smith, 711 D St., San Rafael.

Mendocino-Lake County Medical Society
Pres., Martin S. Barnes, 615 Main, Fort Bragg.
Secy., Neely E. Bradford, 421 Hazel Ave., Ukiah.

Merced County Medical Society. Meets Fourth Thursday, Hotel Tioga, Merced.
Pres., Harry R. Maytum, 595 East 26th St., Merced.
Secy., Gerald D. Wood, 544 West 25th St., Merced.

Monterey County Medical Society. Meets First Thursday.
Pres., Chester G. Moore, 484 S. Main St., Salinas.
Secy., Seymour Turner, 921 E. Alisal St., Salinas.

Napa County Medical Society. Meets Second Wednesday.
Pres., Wrenshall A. Oliver, Box "A," Imola.
Secy., Robert C. Ashley, 1531 First St., Napa.

Orange County Medical Association, 1226 N. Broadway, Santa Ana. Meets First Tuesday, 7:00 p.m.
Pres., Ralph E. White, 203 E. 8th St., Santa Ana.
Secy., Chad M. Harwood, 1202 N. Broadway, Santa Ana.

Placer-Nevada-Sierra County Medical Society. Meets every second Wednesday of each month.
Pres., D. M. Kindopp, 1130 Lincoln Way, Auburn.
Secy., T. J. Rossitto, 1166 High St., Auburn.

Riverside County Medical Association, 4241 Market Street, Riverside. Meets Second Monday, 8:00 p.m., El Loro Room, Mission Inn.
Pres., Van R. Hamilton, 6876 Magnolia Ave., Riverside.
Secy., Veon M. Stone, 4241 Market St., Riverside.

Sacramento Society for Medical Improvement, 2731 Capitol Ave., Sacramento. Meets Third Tuesday, 8:30 p.m., Sutter Hospital Auditorium.
Pres., Jack V. Chambers, 2100 Capitol Ave., Sacramento.
Secy., Charles E. Schoff, 1116 26th St., Sacramento.

San Benito County Medical Society. Meets First Thursday, Hazel Hawkins Memorial Hospital, Hollister.
Pres., E. C. Sheldon, 1610 Cienega Road, Hollister.
Secy., E. Nelson Moore, 1470 Buena Vista Road, Hollister.

San Bernardino County Medical Society. Meets First Tuesday, 8:00 p.m., San Bernardino County Charity Hospital.
Pres., H. R. Morris, 1595 "D" St., San Bernardino.
Secy., Carl M. Hadley, 315 Platt Bldg., San Bernardino.

San Diego County Medical Society, 101 Medical-Dental Bldg., San Diego 1. Meets Second Tuesday, Manor Hotel.
Pres., Ralph B. Mullenix, 3415 Sixth Ave., San Diego 3.
Secy., James I. Knott, 3712 30th St., San Diego 4.

San Francisco Medical Society, 2180 Washington St., San Francisco 9. Meets Second Tuesday, 8:15 p.m., 2180 Washington St., San Francisco 9.
Pres., Herbert C. Moffitt, Jr., 2180 Washington St., San Francisco 9.
Secy., Robert C. Combs, 2180 Washington St., San Francisco 9.

San Joaquin County Medical Society. Meets First Thursday, 8:15 p.m., 936 N. Commerce St., Stockton.
Pres., John F. Mayo, 310 W. Pine St., Lodi.
Secy., Frank A. McGuire, 305 Medico-Dental Bldg., Stockton.

San Luis Obispo County Medical Society. Meets Third Saturday, 7:00 p.m., Anderson Hotel, San Luis Obispo.
Pres., Emil C. Oberson, Marsh at Garden Sts., San Luis Obispo.
Secy., Tibor A. Beresky, 1304 Garden St., San Luis Obispo.

San Mateo County Medical Society, 122 Second Ave., San Mateo. Meets Third Tuesday of each month.
Pres., James S. Edwards, 36 N. San Mateo Dr., San Mateo.
Secy., Henry A. Brown, 77 N. San Mateo Dr., San Mateo.

Santa Barbara County Medical Society, 300 West Pueblo St., Santa Barbara. Meets Second Monday, Cottage Hospital.
Pres., J. Gary Campbell, 1525 State St., Santa Barbara.
Secy., A. E. Wentz, 300 West Pueblo St., Santa Barbara.

Santa Clara County Medical Society, 1024 The Alameda, San Jose 26. Meets Third Monday of every month.
Pres., Pierce C. Barrette, 634 E. Santa Clara St., San Jose.
Secy., Henry C. Dahleen, 652 E. Santa Clara St., San Jose.

Santa Cruz County Medical Society. Meets every Second month, Second Tuesday. Time, place to be announced.
Pres., H. S. Barr, 850 Main St., Watsonville.
Secy., Samuel B. Randall, 230 Walnut Ave., Santa Cruz.

Shasta County Medical Society. Meets First Monday.
Pres., Rex N. Carr, 2007 Pine St., Redding.
Secy., Roland Jantzen, 1726 Market St., Redding.

Siskiyou County Medical Society. Meets Sunday on call.
Pres., Werner F. Hoyt, Lassen Lane, Mt. Shasta.
Secy., Drogutin D. Todorovic, 224 Branstetter St., Dunsmuir.

Solano County Medical Society. Meets Second Tuesday, 8:00 p.m., at different meeting places.
Pres., Melvin A. Schmutz, 650 Tennessee St., Vallejo.
Secy., John C. Miller, 1000 Marin St., Vallejo.

Sonoma County Medical Society, 300 American Trust Bldg., Santa Rosa. Meets Second Thursday.
Pres., Robert S. Westphal, 3325 Chanate Road, Santa Rosa.
Secy., Frank E. Lones, 300 American Trust Bldg., Santa Rosa.

Stanislaus County Medical Society. Meets Third Thursday, 7 p.m., Hotel Hughson, Modesto.
Pres., Ivan E. Martin, 1628 I St., Modesto.
Secy., Robert W. Purvis, 709 - 18th St., Modesto.

Tehama County Medical Society. Meets at call of President.
Pres., Harve Wm. Jourdan, 410 Pine Street, Red Bluff.
Secy., Frank N. Townley, 304 East Solano, Corning.

Tulare County Medical Society.
Pres., J. J. McNearney, 140 N. M St., Tulare.
Secy., Gordon L. Jackson, P.O. Box 345, Terra Bella.

Ventura County Medical Society. Meets Second Tuesday, 7:15 p.m., Colonial House, Oxnard.
Pres., R. F. Robertson, 813 Yale, Santa Paula.
Secy., F. K. Helbling, 34 N. Ash St., Ventura.

Yolo County Medical Society. Meets First Wednesday.
Pres., Thomas Y. Cooper, 218 F St., Davis.
Secy., Neil D. Elzey, Woodland Clinic, Woodland.

Yuba-Sutter-Colusa County Medical Society. Meets Second Tuesday.
Pres., John F. Belz, 725 4th St., Marysville.
Secy., Robert I. Hodgin, 729 D St., Marysville.

ANNUAL COUNTY MEDICAL SOCIETY REPORTS

FIRST DISTRICT

San Diego County.

Francis E. West, San Diego, *Councilor.*

San Diego County Medical Society

The San Diego County Medical Society has had a very successful year under the leadership of the president, Dr. Howard Ball.

The television series, "Your Doctor Answers," which was begun by the society in the summer of 1953, was continued on a bi-weekly basis during the entire year of 1954. This program has achieved such popularity that it is being sponsored from November 1954 until April 1955 by the San Diego Federal Savings and Loan Association.

KFMB-TV, which has carried the program, was awarded first prize among all the television stations in the state for its documentary film, "The Birth of a Baby," in the 1953 competition of the California Associated Press-Radio Association. This program was one of the series of "Your Doctor Answers" given by the San Diego County Medical Society. In accepting the award which was made May 15, 1954, Paul White, executive editor of the station, said: "The tribute should go not so much to us as to the San Diego County Medical Society, whose cooperation made the documentary film possible."

In 1953, the San Diego County Medical Society purchased property for the purpose of constructing a building to house the offices of the society and the Doctors' Eye Service Bureau. The construction committee has been busy during the year. Preliminary plans have taken form and work on the new building is expected to begin in the spring of 1955. The building should be ready for occupancy in the fall of 1955.

The San Diego County Medical Society has been active in promoting postgraduate study during the past year. Three universities, namely the College of Medical Evangelists, the University of Southern California, and the University of California at Los Angeles, conducted postgraduate courses during the year which were well supported by the local membership. The Southwestern OB-GYN Society meeting was held in Coronado on September 10 and 11, 1954. A postgraduate course was shown on television during the month of October from 7 to 8 in the mornings.

The bulletin of the San Diego County Medical Society, published monthly, was selected by the American Medical Association to be mailed to all state and county societies as an example of how a publication can be used to keep the membership informed of matters essential to them in their own locality. Plans are in progress for devoting a section of our bulletin to Imperial Valley news for the purpose of achieving closer relationship between our society and the practicing physicians in that area. In like manner, we hope to achieve closer cooperation and fellowship with the physicians in Tijuana.

MAURICE J. BROWN, *Secretary*

SECOND DISTRICT

Imperial, Inyo, Mono, Orange, Riverside and San Bernardino Counties.

Omer W. Wheeler, Riverside, *Councilor.*

Imperial County Medical Society

A new approach was adopted at the beginning of the year by having one of the members of the local medical society present a paper for the scientific part of each monthly meeting on a subject of the members' own choice. This had the advantage of keeping the members more interested and always assuring the society of the availability of a speaker.

Under the guidance of the Medical Services Commission of the California Medical Association a Medical Services Committee was appointed for the society. This committee conducted a survey to arrive at an average fee schedule.

The society holds its regular meetings the second Tuesday of each month at 8 p.m. at the Pioneer Memorial Hospital. The scientific part of the program is followed by a business meeting.

ERNEST BROCK, M.D., *Secretary*

Inyo-Mono County Medical Society

The Inyo-Mono County Medical Society enjoyed an active and interesting year. Possibly the most interesting program was that given this fall by Dr. Arthur Parmelee, who discussed some physiology of the newborn. There have been no especial problems or programs other than the routine, but these have kept us busy.

ROBERT W. DENTON, *Secretary-Treasurer*

Orange County Medical Association

Nineteen fifty-four proved to be one of the most active in the 65-year history of the Orange County Medical Association, which now numbers 280 members. The sixty-fifth anniversary celebration, which was held in the early west setting of Knott's Berry Farm, proved to be one of the most enjoyable and successful community social events of the year. Members of the Orange County Associated Chambers of Commerce were invited guests, along with members of the Orange County Board of Supervisors. Honored guests were five members of the association who each had practiced in Orange County for more than 40 years. The association was very highly honored by the Associated Chambers of Commerce of Orange County, which presented the medical profession with a plaque of meritorious service in appreciation of the outstanding service rendered by the members of the Orange County Medical Association and their devotion to the welfare and health of the citizens of Orange County for the past 65 years. The plaque of meritorious service was presented to President A. Norton Donaldson, M.D., at the annual meeting of the Chamber group. Dr. Donaldson's remarks supporting the Chamber of Commerce and its local and national policy received hearty applause from all.

Due to increased malpractice problems, a special study committee was appointed to reevaluate the association's malpractice prevention program. Specific points to be studied by the committee, which still is continuing its research, are: The initial causes of the breaking down of the doctor-patient relationship; in what manner does this lack of relationship affect or induce malpractice suits; has our prevention program been effective and does it continue to meet the needs of modern medical-legal problems faced daily by our members. Recommendations from this committee are expected to assist greatly with the association's future prevention program.

A Speakers' Bureau was formed for the purpose of furnishing qualified speakers to the ever-increasing members of groups seeking speakers on medical topics. This has proven very successful.

Our Orange County Medical Assistants' Association, newly formed in April, has grown into the largest group in the state. Fully approved and recognized by our association, the group has developed a real training course and public relations program.

The appointment of a health insurance study committee has launched a complete investigation of this problem by a nine-member committee. They continue to meet regularly to discuss such problems as the C.P.S. $6,000 ceiling, union welfare plans throughout the county, and have scheduled a meeting with the personnel managers association of Orange County for the purpose of discussing health and welfare plans with the management level.

Our very active Woman's Auxiliary continued its many projects of aid to the profession and service to the public. Recruitment of nurses through the awarding of scholarships and other promotional ideas was highly successful. Businessmen and service clubs were induced to take an interest in the nurse shortage and various groups donated seven scholarships. The Auxiliary also furnished some 110 schools and Parent-Teacher Associations with subscriptions to *Today's Health* magazine, thus furnishing them with continuous modern and factual health information.

We continue to grow in size along with the increase in population. We also continue to meet and act on the many problems which face a rapidly growing society and county population.

CHAD M. HARWOOD, M.D., *Secretary*

Riverside County Medical Association

The past twelve months have witnessed the implementing of the revised constitution and by-laws and the change from calendar year to July 1 as installation date for new officers. This method will allow more time for selection of committees and indoctrination of new officers during the quieter summer months.

The January meeting was designated as the State Officers meeting and was held in conjunction with the Woman's Auxiliary. The Mission Inn, as usual, provided a nice background for this dinner meeting.

The Riverside County Medical Association donated its library to the medical staff of the Riverside Community Hospital.

In order to cover emergency care in the several industries in and near Riverside, volunteer panel lists are made up of the members. This has proved a satisfactory way in which to handle this situation.

The building of the University of California at Riverside has made an impact on this community. In cultural, economic and other respects this impact has been good. The local medical society has risen to the medical needs of the students and through its student health committee has formulated a plan with the California Physicians' Service to give the student complete medical and surgical care for $3.85 per month. A fully equipped dispensary has been incorporated in the Physical Science Building and the plan has functioned well in caring for the approximately 500 members. Dr. Fred Veitch has headed up this committee from its inception.

The first of a proposed annual meeting at the U. S. Naval Hospital, Corona, Calif., was held in February. The Naval medical officers presented a well-received program.

RCMA, through its Public Relations Committee, set up a medical exhibit at the Date Festival and Fair held in Indio each winter. This has proved to be a good contact as much interest is always shown by the large numbers visiting the booth. This committee was handled last year by Dr. Donald Abbott.

Dr. Henry Barron has sparked the committee handling the annual regional medical and surgical institute for southern counties the past few years. This well-presented and attended meeting held in April at Palm Springs was another success.

Engraved gold-headed canes were presented during the year to the following members for 25 years' membership in the local association: Dr. W. Edwin Gardner, Dr. Allen Bramkamp, Dr. Charles R. Geith, and Dr. Herman Baer.

The annual golf-dinner dance was held in November this year. This well attended affair includes as guests the local dentists and pharmaceutical representatives.

The first meeting of the fall was devoted to the subject of professional liability. To discuss this important subject, Dr. Louis Regan came out from Los Angeles. Invited guests included all local dentists and attorneys. This type of meeting has much to offer and should appeal to an increasingly large number of persons.

The program chairman for the second half of the calendar year, Dr. Herman Stone, has had his budget substantially increased as a result of the opinion of President Van Hamilton and President-elect Richard Boylan and other members of the Council that money should be available to obtain the best programs available to the local membership. This is one of the ways that the local society can be of service to its members. This move has been reflected in the quality of the programs and the increased attendance. It is hoped that members will realize that absence from a meeting will mean a distinct loss to them.

The Association this year employed Mr. Robert Marvin as Business Secretary, a title to be changed to Executive Secretary as soon as his indoctrination program has been completed. Mr. Marvin was recently elected to membership in the C.M.A. Advisory Planning Committee.

C.M.A. Delegates from this component society were voted a ten dollar per diem per delegate to help defray expenses.

The Bulletin continues to serve as an excellent instrument to disseminate official and unofficial information relative to the Association affairs. Dr. Walter Crawford, editor, is attempting to bring together parts of a county which includes members separated by as much as 175 miles. With regard to this same geographic problem, Association meetings are held in various locations throughout the county, and the officers of the Association make an annual visitation to the various communities.

Respectfully submitted,

VEAN M. STONE, M.D., *Secretary*

San Bernardino County Medical Society

The San Bernardino County Medical Society now under the able direction of President Harold R. Morris, is enjoying a successful year.

Dr. Morris has appointed committees who have been very active under the leadership of their various chairmen. For getting things done the following have been noteworthy: Ross L. Ballard, M.D., Chairman of Medical Services Committee; John T. Richards, M.D., Chairman of Public Health Committee; Roger A. Vargas, M.D., Chairman of Orange Show Committee; Ben D. A. Miano, M.D., Chairman of Public Relations Committee; Allen F. Sterling, M.D., Chairman of Postgraduate Committee; P. M. Savage, Jr., M.D., Chairman of Public Service Committee; and D. B. Williams, M.D., Chairman of Judicial Council.

Our regular meetings have been mainly devoted to the presentation and study of economic problems. This has been successful in acquainting our members with the present day problems of medicine, and our relations with the public.

CARL M. HADLEY, M.D., *Secretary-Treasurer*

THIRD AND FOURTH DISTRICTS

Los Angeles County.

H. Clifford Loos, Los Angeles, *Councilor,* Third District; J. Philip Sampson, Santa Monica, *Councilor,* Fourth District.

Los Angeles County Medical Association

Last year we reported that 1953 was one of the most active years in our history—1954 proved even more so. Los Angeles County is generally considered as one of the most rapidly growing areas in the country; our Association is keeping pace, now (January) numbering 6,230 members.

During the Annual Session last May, many members of the House of Delegates attended ground-breaking ceremonies for our new headquarters building. Construction was completed early this year. The new buildings have solved, for the time being at least, the need for space by our growing administrative force. We are now able to provide space for six meetings at once, and even so we have been unable to meet all of the requests of our members.

Last September the television show "Medic" commenced weekly showings throughout the country over NBC. The show carries the seal of approval of the Los Angeles County Medical Association; our Television Committee gives technical supervision on script, writing and filming. The workload of this committee has been enormous, requiring one or two meetings each week. Nevertheless, the high quality of the show has been a credit to medicine and we feel a real contribution to medical public relations throughout the nation. Last November "Medic" commenced weekly showings over the Canadian Broadcasting System, carrying our seal of approval and that of the Canadian Medical Association.

On November 30, 1954, "Medic" was judged the outstanding new television program of the year in the Annual Sylvania Television Awards. Our Association received a certificate of merit for our contribution to the program.

In addition to "Medic," our Association, in collaboration with the California Medical Association, has sponsored a weekly half-hour public service television program titled "Ask the Doctor." This is a panel discussion by three physicians on medical topics of general interest. It has proven very successful, attracting 70 per cent of the television sets in this area at the time of the showing. Our busy Television Committee is also responsible for this activity.

The television activities outlined above, plus other necessary public relations efforts, resulted in the employment of Mr. Jerry Pettis last August as Executive Assistant to the President, and Public Relations Director. Mr. Pettis was formerly Assistant Director of Public Relations for the California Medical Association. His assistance will be most helpful in our future efforts here.

Smog has continued to be a topic of prime interest to the citizens of this area; the Association is frequently called on by the regulatory bodies in this field for advice and direction. The Association is represented on every committee studying the smog problem, the work of our Smog Committee over the past seven years paying real dividends in community esteem.

The Association created a Welfare Committee within the past year which is accomplishing an objective which will be of interest to other county medical societies. The prime function of this committee is to assist widows and survivors of deceased physicians dispose of the assets of the doctor's practice at a fair price. If it is only a matter of selling the equipment, the local association of surgical supply dealers gives free, reliable appraisal figures—the committee helps in the disposition. If the practice and equipment are to be sold, the committee locates a physician to take over, suggests financial arrangements fair to all concerned.

Our scientific meetings are conducted in a manner unique in California, but similar to the arrangement in Chicago. Because of the size of our county and the distances involved, the Association is divided into fifteen branches, each having its own officers, holding its own meetings. Once a month the officers of the Association meet with the branch officers to discuss current developments. Our Council of forty-one members from all branches makes all policy decisions of the Association. Our nine-member Board of Trustees handles all financial matters.

It is a pleasure to extend the best wishes of the Los Angeles County Medical Association to our fellow physicians in California.

EWING L. TURNER, *Secretary-Treasurer*

FIFTH DISTRICT

San Luis Obispo, Santa Barbara and Ventura Counties.

Robert O. Pearman, San Luis Obispo, *Councilor.*

San Luis Obispo County Medical Society

Regular monthly meetings of the San Luis Obispo County Medical Society were held on the third Saturday of each month. Officers for the year 1954 were as follows: President, Ernest Werbel, M.D.; vice-president, Emil C. Oberson, M.D.; secretary-treasurer, Tibor A. Beresky, M.D.; directors, Edison A. French, M.D., J. Barry Smith, M.D., John F. Hardham, M.D.

The Public Relations Committee outlined a broad program of public relations which is expected to be placed in effect during the year 1955. This will consist of television and radio programs, formation of a speakers' bureau, and cooperation with the press.

The program chairman, Emil C. Oberson, M.D., was instrumental in providing many interesting and educational scientific programs.

One of the major committee activities of the year was the complete revision of the constitution, under the chairmanship of Jim Scow, M.D. This constitution was unanimously accepted by the membership and placed in effect during the latter part of the year.

Social activities consisted of a very enjoyable summer barbecue at the home of Emil Oberson, M.D., in August. A Christmas party under the chairmanship of Eugene Petrick, M.D., was held during the early part of December.

At the November meeting the following officers were elected for the year 1955: President, Emil C. Oberson, M.D.; president-elect, J. Barry Smith, M.D.; secretary-treasurer, Tibor A. Beresky, M.D.; directors, Anthony V. Keese, M.D., Karl Kundert, M.D., and Robert Bossert, M.D. Delegates to the California Medical Association: Alfred M. Wolfe, M.D., Ernest Werbel, M.D.; alternates, Joseph Middleton, M.D., and R. T. Treadwell, M.D.

TIBOR A. BERESKY, *Secretary*

Santa Barbara County Medical Society

The year 1954 of the Santa Barbara County Medical Society under the guidance of Dr. Laurence E. Heiges, Jr., has been an interesting one. The membership of this society numbers 183, of which 161 physicians are full active members, four associate, two in military service, two on sick leave, one postgraduate, two life members and five on a retired status. Six new applicants are to be voted into full membership in January. There have been 22 committees designated to facilitate the activities of the society.

This year for the first time our programs have been changed to include not only out-of-town speakers but our own personnel who have presented papers.

Two members of our society were appointed to assist physicians desiring to locate in Santa Barbara County and this arrangement has proved very satisfactory.

The Public Relations and Legislative Committee started the year with an idea of developing a television program over our local station. Suitable films are being reviewed for this program. The local program is being assisted greatly by the statewide national broadcasts sponsored by the A.M.A. and Los Angeles County Association.

During the past year the Committee on Insurance and C.P.S. met to consider the problems which arise in regard to health insurance and public relations, and the general insurance angle. The main activity in regard to Santa Barbara County was the tri-county conference on Health and Welfare Plan held in June in Los Angeles. At this meeting the use of welfare funds was discussed and it was the feeling of the labor representatives that the funds had been abused by their own personnel, by the hospitals, as well as by the doctors. The medical profession again stressed the point that it was not its responsibility to police the recipients of the welfare fund. The problem of the medical fee schedule was also discussed at this meeting and it was pointed out that the Santa Barbara County Medical Society now has a fee schedule committee which is working on this problem for the benefit of the public.

The Public Service Committee has met during the year to discuss the management of various problems arising within the domain of their consideration. There have been eight cases to be considered by them during the course of the year, all of which have been reviewed and disposition made of them to the satisfaction of both physician and patient. It is our feeling that this committee has contributed greatly to the public relations program in the community.

The Physicians Exchange, under the direction of Dr. William Kiely, has continued their satisfactory handling of emergency and night calls by referring patients to physicians on a rotating basis.

The Disaster and Civil Defense Committee, in following the new concept of Civil Defense procedure, namely, one of dispersal of the civilian population from central positions of cities, has considered their responsibility in the evacuation of the Los Angeles area, which will necessitate the dispersing of some 50,000 medical evacuees into the 7th region, including the counties of Ventura, Santa Barbara and San Luis Obispo. A survey of the medical capacity of that area indicates that the plan is feasible.

The medical library of the Santa Barbara County Medical Society continues to maintain service five days a week from 9:00 a.m. to 4:00 p.m. and in the evenings from 6:00 p.m. to 9:00 p.m. During the year 2,214 books and 1,095 periodicals were borrowed. Fifty-two new books were purchased, 10 journals are donated to the library by doctors and subscriptions have been received for four periodicals. The St. Francis Hospital library has expanded and gift books numbering 50 have been received during the year.

The Woman's Auxiliary to the Santa Barbara County Medical Society continued to sponsor the Future Nurses group and also supplied a scholarship of $1,000 to a nurse for postgraduate study. The money for this project was raised by a unique bridge party, planned so that guests were entertained in small groups in the homes of 23 members of the Auxiliary.

We look forward to a successful year under the direction of our new president, J. Gary Campbell; our president-elect, Richard McGovney; the secretary, Arthur E. Wentz; secretary-elect, Robert I. Cord; and treasurer, Francis B. Zener. The Council members for the coming year will be Albert S. Missal, Laurence E. Heiges, Jr., J. Gary Campbell, Richard McGovney, Arthur E. Wentz, F. B. Zener, James H. Saint, H. E. Henderson, and William R. Johnston.

ARTHUR E. WENTZ, *Secretary*

SIXTH DISTRICT

Calaveras, Fresno, Kern, Kings, Madera, Mariposa, Merced, San Joaquin, Stanislaus, Tulare and Tuolumne Counties.

Neil J. Dau, Fresno, *Councilor.*

Fresno County Medical Society

Under the leadership of President Fred E. Cooley, and through the efforts of our various committees, the activities of the Fresno County Medical Society during the past year have contributed much in the public interest and to the profession in general. A brief resume of these activities follows.

Early in the year an amendment to our by-laws separated the malpractice functions from the Professional Relations Committee and provided for a new committee, namely the Medical Practice Committee. This committee has done an outstanding job, and it would be impossible to evaluate the benefit derived by the entire society from its function.

An equally important and valuable committee has been the Medical Services Committee, also created this year. Under the able chairmanship of E. C. Halley, members of the committee have reviewed and evaluated all types of health insurance coverage throughout the state in order that we may develop a program of providing health care to meet the needs of the community in a manner and at a cost designed to fit the modern economic standards.

The fourth annual Postgraduate Institute was held in March and was termed the most successful to date. Last spring the Fresno County Chapter of the Medical Assistants Association was formed under sponsorship of the society. In May we met for our third annual press-radio-TV dinner at which time a copy of the Code of Cooperation, adopted last year, was given to our guests. In November the first Valley Symposium on Chest Diseases was held. Because of the success of this program, a similar meeting may be held again next year.

Late in the year an Advisory Committee to California Physicians' Service was established. However, this committee has had the opportunity to meet only on one occasion, thereby making its function very limited, but this will no doubt be a very effective and beneficial committee in 1955. By a majority vote of the membership the Central California Blood Bank was established and will be in operation very soon. Monthly membership meetings have been good, and attendance has shown a decided increase over the preceding year.

Total membership at the present time is 279, of which 242 are active members. There are 11 applications for active membership and two applications for associate membership that are being processed. This makes a total of 39 new practicing physicians in Fresno County for the year 1954. Four members entered military service and three returned. This brings to a total of 11 those now on active military duty.

William L. Argo, *Secretary*

Kern County Medical Society

The activities of the Kern County Medical Society reached a new high during the past year. Under the progressive leadership of L. N. Osell, M.D., the far-reaching implications of the future of medicine were given careful consideration. Committees were utilized to the fullest extent as fact-finding units which presented their findings and suggested solutions to the Board of Directors.

August 25, 1954, is a day that will long be remembered. On this day, ground-breaking ceremonies were held for the new Greater Bakersfield Memorial Hospital, climaxing many years of hard work and planning, not only for the doctors but also for the community. At the present time, construction is about 20 per cent completed and if the construction schedule can be maintained, the hospital should be ready for occupancy early in 1956.

Earthquake-damaged Mercy Hospital is being rapidly rebuilt and within a year should be in operation. The County Hospital's rebuilding program is also progressing according to schedule and should be ready for occupancy late in 1955.

Upon completion of the existing hospital construction programs, it is generally felt that the community will have adequate hospital facilities.

The Public Health Committee was one of the most active committees of the society. Their primary problem was to maintain a safe level of immunization among the school children. A mass immunization program was conducted early in the year to establish a safe level. This was followed by an educational program to have all school children receive their necessary immunizations in the doctors' offices with reporting of same to the schools. The membership was surveyed to establish uniform fees and procedures to be followed. Meetings have been held regularly with the school administrators, school nurses, Health Department, and the doctors to work towards a solution of all school health problems. From a public relations standpoint, this committee has accomplished a great deal in reestablishing responsibility.

The Postgraduate Committee, in cooperation with the Bakersfield College, presented the first postgraduate course for vocational nurses. This proved to be a very successful venture. Members of the society lectured on topics in their respective specialties. A second course is planned to start in January 1955. This committee also arranged two postgraduate courses for the doctors. University of Southern California School of Medicine presented a series of lectures designed to present the recent developments in the field of medical science.

The Woman's Auxiliary continued their many activities of aid to the profession and service to the public. Scholarships were awarded to students as a means of recruiting additional young women to go into the field of nursing. The general public, service and civic clubs were encouraged to take an active interest in the growing shortage of nurses. The Auxiliary actively supported the hospital by direct solicitations and by promoting outstanding benefit shows.

The membership of the society has continued to increase during the past year. Fourteen new active members and ten affiliate (junior) members were accepted during the year. At the close of the year, twelve applicants were voted on in the first meeting of the new year. With the continued population growth in this area, the outlook for the future is very bright.

R. W. Burnett, *Secretary-Treasurer*

Kings County Medical Society

The annual meeting of the Kings County Medical Society was held at Peden's Cafe, Hanford, on December 9, 1954.

Officers for the following year were elected. These were Edwin Kerr, M.D., president; N. F. Sorensen, M.D., vice-president, and Howard Francis, M.D., secretary.

A review of the past year shows several notable achievements, one of these being the successfully conducted diabetic survey which was sponsored by the society at the annual Kings County Fair. Another is the creation of the Kings County Heart Chapter of the American Heart Association. The latter has been possible largely through the efforts of Dr. Lloyd Christensen and other members of the society.

Another notable achievement is the establishment of a medical library at the Sacred Heart Hospital in Hanford.

The society meets the second Thursday of each month for a dinner meeting and scientific program.

N. F. Sorensen, *Secretary*

San Joaquin County Medical Society

Dr. James D. Baker served as president of the San Joaquin County Medical Society during 1954, and his term of office was marked by the inauguration of a number of new programs of vital importance both to the community and to the Medical Society

On March 1, 1954, the members of the society set up a separate corporation known as the "Foundation for Medical Care." The purpose of the foundation is to promote, develop and encourage the distribution of medical services by its members to the people of San Joaquin and adjacent counties at a cost reasonable to both patient and physician. One of the vital steps in establishing this program was the acceptance by foundation members of a uniform fee schedule. This fee schedule was determined after a poll of members of the society regarding their charges for all commonly accepted procedures. The fee schedule thus compiled by a committee of which Dr. James J. Heffernan was the chairman represents the fees usually charged by 75 per cent of our membership. Contracts have now been written to provide complete medical coverage for employed groups on the basis of this fee schedule. In the case of groups whose annual income is below a certain level, foundation members agreed to accept a stated percentage of the fee schedule. Foundation members have further agreed to accept, without additional charge, the fees provided by the contracts for a period of one year. All contracts are issued on an annual basis. The foundation has not been in operation long enough for us to be able to appraise its value, but we are optimistic that it will serve as a means to provide medical care for certain groups who would otherwise not be able to afford it.

In June of this year the San Joaquin County Medical Society sponsored a multiphasic screening study of members of the I.L.W.U. This program consisted largely of laboratory studies done on all members of the union who presented themselves for examination. It was first pointed out that any findings developed at this study would not affect the employability of the individual. Though the results have not been completely tabulated, a preliminary review indicates that many previous unrecognized conditions have been picked up.

Because of a shortage of funds, the American Red Cross which had been operating the local Blood Bank for a number of years, indicated their willingness to withdraw from this activity. After a great deal of hard work by Dr. Donald C. Harrington and Dr. J. Harold Williams, arrangements were made for the purchase of the Bank facilities. A separate corporation, totally controlled by the society and known as the Delta Blood Bank, was organized. A generous loan obtained from C.M.A., supplemented by a smaller bank loan, permitted payment to the Red Cross for the entire unit. A further savings to the society was effected when the offices of the society and the Foundation moved into the building of the Blood Bank. Operation of the Bank was started on July 1, 1954. The Bank is servicing Stanislaus, Calaveras, Tuolumne and San Joaquin counties, and drawings are at the rate of about 1,000 pints per month. The indications at the present time are that the Bank will be successful financially.

The Postgraduate Study Club continued its annual series of eight lectures; Dr. Louis P. Armanino again successfully directed this program. The society cooperated with the American Diabetes Association in their annual diabetes detection program. Dr. John Blinn, Jr., served as editor of the Bulletin during the past year. A considerable increase was made in the size of the publication and a page has been made available for reporting activities of Stanislaus County Medical Society.

Dr. Fred J. Conzelman of Stockton died on June 26, 1954. Dr. James Frank Doughty of Tracy died on October 19, 1954, and Dr. Thomas J. Haggerty of Stockton died on November 9, 1954.

The membership roster remained the same in number in 1954.

Respectfully submitted,

Frank A. McGuire, *Secretary*

Tulare County Medical Society

The Tulare County Medical Society has completed another successful year under the able leadership of President Vincent M. Dungan, M.D., of Visalia.

Seven new members joined the society during 1954, bringing the total to 93 active members, three retired, and three in the service.

The death of Roy F. Ruth, M.D., of Woodlake, in September of this year marked a loss to the medical society and to the community of one of its most respected members.

The society was fortunate in having some very outstanding programs during the year, with Dr. Gordon L. Jackson serving as program chairman.

The officers of the California Medical Association were guests of the society at the regular January meeting when Dr. John W. Green, president of C.M.A., spoke to the society.

At the February meeting the members enjoyed a tour of the new Porterville State Hospital.

Dr. Ian McDonald gave a very interesting talk on the biological balance in cancer. Dr. Paul Leach, assistant medical director of the Richfield Oil Company, gave a very interesting and timely talk on the toxic effects of various agricultural chemicals at our April meeting.

The Tulare County Bar Association and the Tulare County Medical Society held their joint meeting again this year in May at the Hotel Johnson. The dinner was provided by the lawyers and the doctors provided the speaker. Dr. Louis J. Regan gave a most interesting and instructive talk on malpractice problems.

In June, Dr. George Griffith, president of California Heart Association and professor of medicine at the University of Southern California School of Medicine, gave a most instructive talk on the complications of the myocardial infarct.

Dr. Gordon Garnett of Los Angeles, Dr. Earle M. Marsh of San Francisco and Dr. James Rohn, one of the society's own members, provided excellent programs during the fall portion of the year 1954.

In November the new officers of the C.M.A. were guests of the society when Dr. Arlo Morrison, president of C.M.A., addressed the society.

The fourth annual postgraduate meeting was held at the Hotel Johnson, Visalia, on Sunday, September 19, 1954. An excellent program was presented by speakers from the faculty of the staff of the College of Medical Evangelists, Los Angeles. The course was well attended. Dr. George Lavers of Tulare served as chairman this year, assisted by Dr. James Rohn and Dr. R. W. Watson.

This year we were again allotted space in the Fresno County Medical Bulletin for Tulare County medical news. Dr. Irving R. Schwartz, of Visalia, edited this section. The space was devoted to general county medical news and hospital staff news. An excellent history of the society was compiled by Dr. William Clinite, of Tulare, dating back to its very first efforts to form a society.

Officers elected at the December meeting for the year 1955 are: J. J. McNearney, M.D., president; Cyril H. Johnson, M.D., vice-president; Gordon L. Jackson, M.D., secretary. Ralph Miller, M.D., was elected to the board of censors to replace Karl F. Weiss, M.D., whose term expired this year.

Delegates to the C.M.A. House of Delegates are James E. Feldmayer, M.D., and Vincent M. Dungan, M.D. Alternate delegates are Gordon L. Jackson, M.D., and Albert Ehrke, M.D.

Respectfully submitted,

J. J. McNearney, M.D., *Secretary-Treasurer*

SEVENTH DISTRICT

Monterey, San Benito, San Mateo, Santa Clara and Santa Cruz Counties.

Hartzell H. Ray, San Mateo, *Councilor.*

Monterey County Medical Society

The Monterey County Medical Society sponsored and produced weekly television shows, beginning in October 1954. These shows were for 15 minutes each, and were put on by various members of the medical society, who discussed medical conditions of lay interest. The shows were telecast over KSBW-TV, Channel 8, which covers the Monterey County area.

The society, in conjunction with the California Heart Association, sponsored a three-day heart symposium in Monterey, in December, which was quite well attended.

The Monterey County Medical Society has had under consideration the employment of a part-time executive secretary. It is our impression that the business and paper work of county medical societies is increasing tremendously, and that some continuity from year to year is essential. It has been felt that an executive secretary might possibly serve an adjoining county part time as well, thus sharing the cost of the program. He might also do public relations work. This idea is still in the fluid state, and any comments on this program from other county societies with a similar problem, or from interested parties, is invited.

One of the social functions for the year was a joint doctor-lawyer barbecue. This is a popular event, enjoyed by both the doctors and the lawyers, and serves to increase acquaintances between the two groups.

The membership of this society has grown to 135. The board of directors transacts a major portion of the business, leaving a minimum of business to be discussed at the society meetings themselves.

New officers, who have been elected for 1955, are: President, Dr. Chester G. Moore; president-elect (for 1956), Dr. Clyn Smith, Jr.; treasurer and insurance officer, Dr. Norman Andresen; secretary and editor of monthly bulletin, Dr. Seymour Turner; delegates, Dr. James McPharlin, Dr. Howard E. Clark, and Dr. T. D. Englehorn; alternates, Dr. Howard Miles, Dr. Allen C. Mitchell, and Dr. Ernest E. Simard.

Clyn Smith, Jr., M.D., *Secretary*

San Mateo County Medical Society

The year 1954 has seen a further surge upward in the growth of the San Mateo County Medical Society. There are now 408 members in all of the various categories of membership in the society and there seems to be no slackening off of interested prospective members.

Of high interest has been the work of the three polio teams created as the result of an evaluation and survey conducted by a society committee in 1953. These teams, organized for work in June, did not lose a bulbar polio case during the year.

Membership meetings were all well attended and a very complete study of the health insurance situation was conducted. Representatives of labor, management, insurance companies, service plans, and the general public were all heard. Ernest Dichter, Ph.D., noted business analyst, was guest of honor at the May meeting. More programs on the economics of medical practice will be continued in 1955.

Dr. James S. Edwards became president and Dr. Norman C. Fox was elected the president-elect, and Dr. Henry A. Brown secretary-treasurer for 1955.

In addition to this, the society's growth now entitles it to seven delegates and seven alternate delegates to the House of Delegates to the C.M.A.

Norman C. Fox, *Secretary-Treasurer*

Santa Clara County Medical Society

The year 1954 saw the concentration of attention by physicians in this area on two major activities. The first was that of dealing with a hospital staff situation which existed as a community controversy and problem from early 1954 to the first week in September. A solution was achieved through the unity of action by the members of the Society, and through the support of the C.M.A. Council and many of its officers.

Given near equal attention was the problem of developing a solution "aimed at creating a program of voluntary prepay health care more attractive and useful to subscribers than anything existing in the county now, or likely to be offered here by closed-panel groups to residents of this county in the near future." To this end all but two membership meetings throughout the year were devoted to a concentration of discussion and study of the various factors involved with such a development. The Society allocated more than $2,400.00 for the completion of a fee survey through which 67 per cent of the members anonymously reported their usual fees charged in their individual practices for the services they ordinarily rendered. More than 23,800 "priced items" were reported and tabulated and published in booklet form for use of the members of the profession locally. Authorization has been granted to give copies of the survey to C.P.S., Blue Cross, and in specific instances to certain recognized insurance carriers for the purpose of encouraging them to develop a premium structure that could be applied to an indemnity schedule using the "mode" figures developed through the Santa Clara County survey.

At the November membership meeting, the members, in response to a desire to make the best plan (known to be in existence at this time), available to the public as quickly as possible, the members voted to adopt the dual schedule $4,200/$6,000 C.P.S. fee schedule plan. The Society thus became the first county unit in the State Association to accept this proposal urged upon the constituent units by the C.M.A. House of Delegates in May, 1954. Members of the Society's "Prepaid Plans Committee" immediately lent assistance to the C.P.S. sales staff, and contracts were issued before the end of the year to the Santa Clara County Printing Trade employees, and to the employees of the Santa Clara County Government.

Throughout the year the various committees of the Society continued to function in the field of providing medical care for all, regardless of the patients' ability to pay, in continuance with the county's guaranty initially issued in April, 1949; it improved the functioning of its mediation committee handling fee and service complaints; and as the year drew to a close, the membership voted to accept an offer to purchase the Physicians' Exchange (telephone answering service) from Mrs. Genevieve Healey who, over 27 years ago, initiated the telephone answering service, with the assistance of 32 local physicians. Management of the Exchange will be assumed by the Society on March 1, 1955.

The Society's Committee on Malpractice Claims Prevention pursued its cooperation with the other county units in northern California in their continued study of this increasingly pressing problem.

The Society officers wish to commend the officers of C.M.A. and their employed staff for the counsel, aid, and assistance given to us and which helped to make this year a successful one for Santa Clara County.

Dan Brodovsky, *Secretary*

Santa Cruz County Medical Society

Under the able leadership of President D. S. Sedgwick of Capitola six bimonthly meetings were held during the year. Two of these meetings, January and November, were devoted to the annual visitation of C.M.A. officials. Executive Secretary John Hunton and Councilor Hartzell Ray were present at both meetings and brought us up to date on C.M.A. and district affairs. President-elect Morrison was with us at the January meeting and President-elect Shipman addressed us at the November meeting. State Senator Donald Grunsky and Ben Read of the Public Health League were also present at the January meeting. At the time of the March meeting Dr. Lowell Rantz of Stanford addressed us on the subject of Uses and Abuses of Antibiotics. In May Dr. R. R. Newell of Stanford presented a discussion on the subject Medical and Political Implications of the Atomic Bomb. Mr. Joseph Donovan, executive secretary of the Santa Clara County Society, was with us in July and spoke on the subject of Medical Economics. In September Dr. F. L. Chamberlain of San Francisco addressed the society on the general subject of Cardiology. Under the excellent chairmanship of Dr. Luther Newhall the new Constitution and By-Laws Committee has come up with a new document which will serve well a society of the size of the Santa Cruz County Medical Society. The committee is deserving of much appreciation for their task.

Samuel B. Randall, *Secretary*

EIGHTH DISTRICT

San Francisco County.

Sidney J. Shipman, San Francisco, *Councilor.*

San Francisco Medical Society

One of the major events of 1954 for the San Francisco Medical Society was the construction of the new home for the society and its Blood Bank. The building will be occupied early in 1955, and it is expected that the facilities of the Blood Bank will be outstanding among modern blood banking operations. The society's auditorium, which will seat 500, will be the scene of both scientific and social activities for the society and its Auxiliary.

The society was host for the highly successful A.M.A. convention held in San Francisco in June.

Highlight of the year's programs was a dinner honoring Sidney J. Shipman, C.M.A. president-elect, and Mrs. Matthew N. Hosmer, C.M.A. Auxiliary president-elect.

In the medical economic realm, the society membership made a momentous decision, when a majority approved a return to the Health Service System of the City and County of San Francisco. The Medical Insurance Committee is revising the society's 1952 fee schedule.

A group of committees functioning as the "Community Service Commission" has been active in stressing to the membership and to the public the society's interest in overall community service. Among significant contributions made by the society during the year to the community were such items as: A series of workshops for nursing home operators in cooperation with the Chronic Illness Service Center; development by the Hearing Center Committee of plans for establishment of a nursery school for deaf and severely hard-of-hearing preschool age children at the Hearing Center; support of bond issues for the county hospital and the Laguna Honda home; a definitive study on alcoholism in San Francisco by the Mental Health Committee; close cooperation with the Board of Education in regard to general health policies for teachers and students; continuance of the minifilm unit, which will be housed in the new building.

The society has continued its loan program for young physicians, and has revised its orientation lectures for applicants to include more medical economic information. The formation of an Inter-Professional Liaison Committee led to increased cooperation and understanding between the medical and allied professions. The society's Industrial and Public Health Committee will continue a study of an amendment to the city charter requiring that the coroner be a physician. The committee will also arrange a postgraduate course in industrial medicine.

Many other society committees were very active during the year, and their efforts, together with the fine leadership of Samuel R. Sherman, accelerated the society's progress.

Matthew N. Hosmer, *Secretary-Treasurer*

NINTH DISTRICT

Alameda and Contra Costa Counties.

Donald D. Lum, Alameda, *Councilor.*

Alameda-Contra Costa Medical Association

There were 1,485 members of the Alameda-Contra Costa Medical Association at the close of 1954.

Rollen W. Waterson, executive secretary of the ACCMA since 1945 and the person largely responsible for the smoothly-running present organization, resigned as executive secretary in March of this year to form Rollen Waterson Associates, a firm specializing in medical public relations. He has been ably replaced by William K. Scheuber, his former assistant, as executive secretary of the association, and C. A. Catassi as managing director of the Bureau of Medical Economics and the Blood Bank.

This year saw the implementation of the median fee survey. Copies of the completed survey were distributed to all physicians, and made available to insurance underwriters and union group welfare plans to assist them in determining adequate and realistic health insurance coverage. The Medical Services Committee was formed to manage and direct the median fee plan and keep informed on all aspects of health insurance.

Also during this year, specific recommendations were made to the medical staffs of the hospitals of Alameda and Contra Costa counties in an attempt to achieve uniform standards of medical and surgical care through staff organization. These recommendations have been accepted and voluntarily activated by all hospitals whose staffs are large enough to make such organization practicable.

The association this year held indoctrination meetings for applicants for membership. The applicants were invited to informal supper meetings each month prior to their election. At these meetings well-qualified doctors advised them on malpractice prevention, economics of medicine, hospital relations, and medical ethics. Because of the value of the meetings to the new members and the association, it is intended that they become a part of the association's regular program.

THOMAS DOZIER, *Secretary*

TENTH DISTRICT

Del Norte, Humboldt, Lake, Marin, Mendocino, Napa, Solano and Sonoma Counties.

Warren L. Bostick, Mill Valley, *Councilor.*

Humboldt County Medical Society

Our society held regular monthly meetings, except during July and August, at the Ingomar Club House in Eureka. The society has been active in stimulating local interest in the national societies formed for the study and prevention of cancer, poliomyelitis, and tuberculosis. Also, much time has been spent by members in keeping our local blood bank at a high level of efficiency. The Humboldt County Medical Library, located at Seventh and "F" streets, Eureka, now has thirty regular subscriptions to medical journals and five hundred medical books.

Officers elected for 1955 are as follows: president, Shiras M. Jarvis, M.D.; vice-president, Theodore W. Loring, M.D.; secretary, Herman A. Iverson, M.D.; assistant secretary, George B. Watson; and treasurer, James S. Eley, M.D.

Dr. Frank H. O'Neil and Dr. Frederick A. Olson were elected delegates to the C.M.A. with Dr. Clarence Crane, Jr., and Dr. James S. Eley elected as alternates.

HERMAN A. IVERSON, *Secretary*

Mendocino-Lake County Medical Society

During 1954 we had six meetings featuring speakers and medical moving pictures. The officers of the California Medical Association visited us and spoke at our September meeting. Newly elected officers are as follows: Martin S. Barnes, M.D., president; Duane W. Bradley, M.D., vice-president; and Neely E. Bradford, M.D., secretary.

MARTIN S. BARNES, *Secretary*

Napa County Medical Society

The Napa County Medical Society enjoyed a very prosperous year during 1954. We were fortunate in securing the following excellent speakers: Dr. H. Corwin Hinshaw, Dr. Francis A. Sooy, Dr. John Green, president of the California Medical Association; Dr. Walter Rapaport, Director of Mental Hygiene for the State of California; Dr. Warren Bostick, Councilor for the Tenth District; our own Dr. Dwight A. Murray, chairman of the Board of Trustees of the American Medical Association; Dr. Eunice Waters, Dr. Albert G. Bowers, Dr. John W. Cline, former president of the American Medical Association; Mr. Glenn Gillette of the Public Relations Department of the California Medical Association; Mr. John Hunton, executive secretary of the California Medical Association; Dr. Sidney J. Shipman, president-elect of the California Medical Association; Dr. Alfred A. de Lorimier, Dr. Alfred A. Thurlow and Dr. Douglas Dickson.

In June the four-county meeting was hosted by Sonoma County and was held at the Santa Rosa Golf Club. This was a very pleasant social occasion.

Napa County is very fortunate in having within its boundaries three excellent medical institutions. The March meeting was held at the Napa State Hospital where the superintendent, Dr. Theo Miller, was host for the occasion. The May meeting was held at the St. Helena Sanitarium and Hospital where its medical director, Dr. Harold James, was host to the society. This was also a very pleasant occasion. The November meeting was held at the Veterans' Home at Yountville, where Dr. Floyd I. Hohnstein and Commandant Stanley Dunmire welcomed the guests and provided a very pleasant atmosphere and a turkey dinner.

At the November meeting the annual election of officers of the county society was held. Dr. Wrenshall Oliver was elected president, Dr. Donald Marchus was elected vice-president and Dr. Robert Ashley was elected secretary-treasurer. Dr. Walter Brignoli was elected delegate and Dr. Donald Marchus was elected as an alternate delegate to the California Medical Association meetings.

The December meeting was held in conjunction with the Napa-Solano County Dental Society. The two societies enjoyed an excellent address by Dr. Douglas Dickson of Oakland.

During the year a total of ten new members was admitted into the Napa County Medical Society. Three were by transfer from other county societies.

We regret to report the death of Herbert B. Messinger, M.D., which occurred July 30.

MERLE F. GODFREY, M.D., *Secretary*

Solano County Medical Society

The following is the annual report for the calendar year 1954 of the Solano County Medical Society.

Dr. Herbert L. Joseph, president, led the Solano County Medical Society through a very active year in 1954. Informative scientific programs were arranged by Dr. Carl Reichman, which covered presentations of open panel-closed panel medicine arguments, medical insurance coverage, fibrocystic disease in children, clinical laboratory techniques as an aid to diagnosis, a discussion and report by the Cancer Commission of the C.M.A., problems in the maintenance of a solvent blood bank, and the problems and advances of the California Physicians' Service.

The studies of Dr. Melvin Schmutz and his committee in the field of health insurance for labor groups established a tentative fee schedule which was approved for insurance underwriters' consideration. To further aid the splendid work done by Dr. Schmutz and his committee, the society accepted the $6,000 California Physicians' income ceiling limit as a basic fee schedule.

Of particular note were the activities of Dr. C. C. Purviance and his committee, who after extensive study and interviews with other county societies, recommended that a part-time executive secretary be established for this county. With this fine background of work the Solano County Medical Society has now approved an office of the executive secretary as a part-time function. Mr. Louis P. Funk will act in this capacity for the society. Particular credit is due Dr. Purviance and his committee for the progress made by this society in this endeavor, which will be a great aid in strengthening the aims and purpose of the society.

The Solano County Society was guest to Sonoma County Society at the four-county meeting of Napa, Sonoma, Marin and Solano county societies. The host county presented a most interesting evening. The county society was guest to the Solano County Bar Association who provided a pleasant evening. It was a privilege for the members of the society to be guests of the Travis Air Force Base hospital staff, who conducted a tour through the B-36 aircraft.

The social affairs of the year were concluded by a joint meeting between the county society and the Woman's Medical Auxiliary and were host to the executive body of the California Medical Association at the Green Valley Country Club. This concluded a most successful year of 1954, and officers were elected for 1955: Dr. Melvin A. Schmutz, president; Dr. Sam Nesting, vice-president; and Dr. John C. Miller, secretary-treasurer.

ROBERT L. GARRETT, *Secretary-Treasurer*

Sonoma County Medical Society

The Sonoma County Medical Society in 1954 continued to carry forward its active program, with Dr. William J. Rudee at the helm, ably assisted by the executive secretary and legal adviser, F. L. Manker, attorney.

Four new members were welcomed in 1954 and were indoctrinated into the activities of the society by a special program of education for applicants. New legislation was enacted requiring that applicants wait six months to obtain full membership status.

The public service program was implemented this year by a half-hour bi-weekly local radio program *Consultation.* A booth depicting Modern Medicine was displayed at the Sonoma County Fair in cooperation with ancillary groups of Cancer, Tuberculosis, Crippled Children, Heart, Polio, Red Cross and the Dental Society. Services were rendered in the field of education, in the establishment of school courses for child development, a course for medical secretaries, and intensive study of the school health problems. A pamphlet outlining the services of the society was prepared for distribution to patients and to all county newcomers. Three public service ads were placed in the newspapers. The Mediation and Public Service Committee heard twelve cases of complaints and served to iron out differences and indicate to some members which direction the finger points. A society library was inaugurated.

Intrasociety relations were boosted by the continued publication of the monthly Bulletin which is ever improving. Scientific programs included such fine speakers as Loren Chandler, Frances Baker, Ralph Schaffarzick, William Kuzell, George Hughes, D.D.S., Walter Batchelder, Henry Garland, John Cline and Victor Richards.

A two-day North Coast Counties seminar, sponsored by the C.M.A. Committee on Postgraduate Activities was held in February and a one-day Heart Symposium, in cooperation with the American Heart Association, was held in November. The annual four-county meeting with Napa, Marin and Solano counties was held in June. Special highlights were the joint Auxiliary-Society dance in January and the annual barbecue at the home of Dr. and Mrs. William Makaroff in June.

In September, the annual visit of our state officers was held and wise words from Sidney Shipman, Warren Bostick, Glenn Gillette, Ben Read and John Hunton further accentuated the success of a busy year.

Frank E. Lones, *Secretary-Treasurer*

ELEVENTH DISTRICT

Alpine, Amador, Butte, Colusa, Eldorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Yolo and Yuba Counties.

Ralph C. Teall, Sacramento, *Councilor.*

Butte-Glenn County Medical Society

The Butte-Glenn Medical Society was exceptionally active again in 1954. While the Public Service Committee was busy its mechanics are becoming smoother and yet more forceful. The society was deeply involved during the spring with the Public Health Department.

The society grew further this year.

The new officers are: Dr. Frank O'Neill, president: Dr. W. S. Lawrence, president-elect; Dr. Philip Morgans, secretary-treasurer; Dr. Jo Chiapella, honorary secretary.

Karl J. Chiapella, *Secretary*

Placer-Sierra-Nevada County Medical Society

The Placer-Nevada-Sierra Medical Society held regular monthly meetings on the second Wednesday of each month except for June, July and August 1954. One meeting (May) consisted of a medical cancer symposium sponsored by the California Medical Association Cancer Commission and the California Division of American Cancer Society.

The December meeting was a joint dinner meeting with the Woman's Auxiliary.

Officers elected for 1955 in December are as follows: D. M. Kindopp, M.D., president; Nathan Dubin, M.D., vice-president; T. J. Rossitto, M.D., secretary-treasurer. Delegates to C.M.A.: Max Dunievitz, M.D., Oscar Lang, M.D. Alternate Delegates to C.M.A.: T. J. Rossitto, M.D., Clifford Wauters, M.D.

T. J. Rossitto, M.D., *Secretary-Treasurer*

Sacramento Society for Medical Improvement

Organized in 1868, our society is the oldest medical society in the state of California and has enjoyed steady growth since its inception. The society has over 300 active members,' representing 100 per cent increase in less than ten years. Society meetings are held on the third Tuesday of every month and an annual Founder's Day banquet is held on the Saturday nearest March 17, the anniversary of the founding of the society.

The annual business meeting is held in December, at which time the board of directors, delegates and alternates to the California Medical Association and the secretary-treasurer are elected. The president and vice-president are then elected from among the board of directors at their January meeting.

The society is continuing the program launched in 1950, guaranteeing to every resident of the community good medical care 24 hours a day, regardless of the ability to pay. In order to accomplish this, the society operates a 24-hour medical telephone exchange, which has had to be expanded twice since its inauguration in 1951 and now handles approximately 57,000 calls a month.

One of our outstanding committees is the Professional Conduct and Ethics Committee, which attempts to adjudicate differences between a patient and his physician and between physicians, should such instance arise.

The society has a Membership Indoctrination Committee, which instructs new members in what they can expect from the society and what the society expects from them.

One undertaking, which has proven itself to be well worth the time and effort, is the operation through the society office of a placement bureau, operating for the exclusive use of the members, without charge. During the past year approximately 52 openings in physicians' offices have been filled through this bureau.

The Paul H. Guttman Library of the Sacramento Society for Medical Improvement, which was founded in 1953, continues to show extremely rapid expansion and a proportionate increase in usage by the membership.

The Sacramento Medical Foundation, which in turn operates the Sacramento Blood Bank, one of eleven medically sponsored nonprofit blood banks in California, is an integral part of the Sacramento Society for Medical Improvement. From this bank, the blood requirements for the major portion of Northern California are supplied.

Frank G. Schiro, *Secretary*

Shasta County Medical Society

The Shasta County Medical Society now has 44 members, two of whom are serving in the armed forces.

In 1954 the members have made unanimous contribution to the American Medical Education Fund, and in addition, unanimous contribution to a loan fund for needy medical students from this area.

Regular meetings of the society are held on the first Monday of each month.

Officers elected for 1955 are Rex N. Carr, M.D., president; Howard A. Wells, M.D., vice-president; and Roland R. Jantzen, M.D., secretary-treasurer.

R. W. Thomas, *Secretary-Treasurer*

Yolo County Medical Society

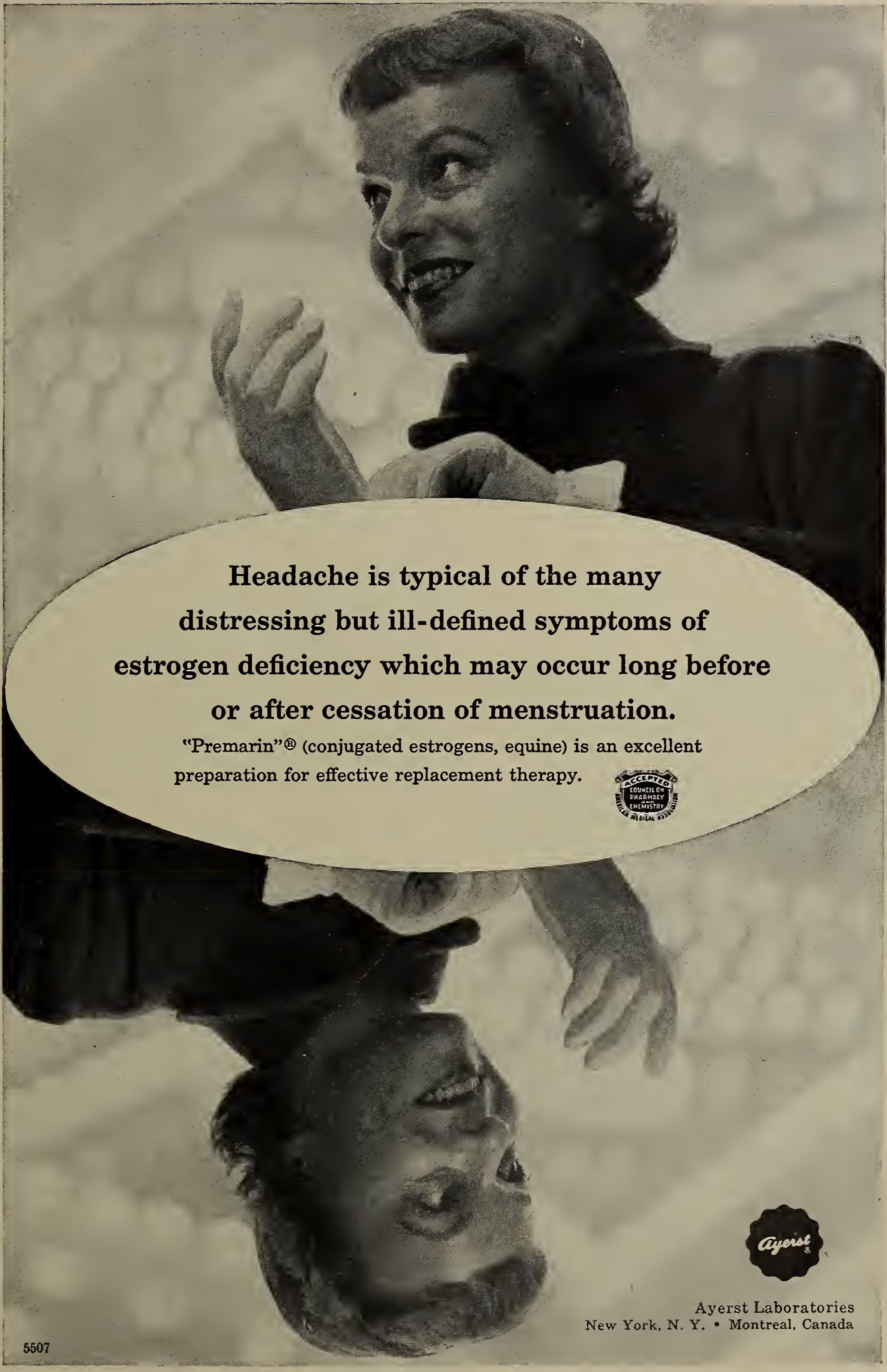
The Yolo County Medical Society held monthly meetings throughout the year with the exceptions of July and August. At each meeting professional papers were presented by various authorities in nearby areas. The society actively supported the Yolo County Societies for Cancer, Tuberculosis, Heart Disease and the Blood Bank.

New members elected during the year included Drs. Perry A. Olsen, Frank J. Boutin, Samuel C. Houston, all of Woodland, and Ernie Young of Winters. Dr. John Homer Woolsey was granted the change of status from active to retired member.

Dr. Henry Potter of Winters resigned from the society after 19 years and has moved to the Monterey area.

New officers for the year 1955 were elected in December 1954. These officers include the following: Thomas Y. Cooper of Davis, president; James Kimbell of Vacaville, vice-president; Neil Elzey of Woodland, secretary-treasurer; Woodring Pearson of Woodland, delegate; Ray Nichols of Woodland, alternate delegate through December of 1956; and Earl Gray of Woodland, historian.

Neil D. Elzey, *Secretary*



Headache is typical of the many distressing but ill-defined symptoms of estrogen deficiency which may occur long before or after cessation of menstruation.

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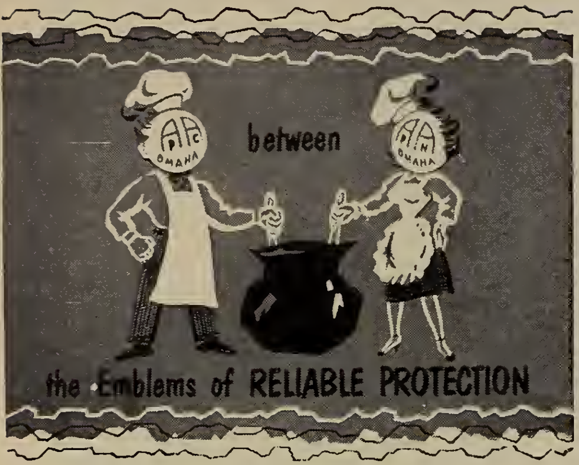
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Preliminary Report Made on Lung Cancer Survey

Researchers recently made a preliminary report on a search for a better way to find lung cancer while still curable.

They said although the study has not gone far enough for any final conclusions, they already have noted some interesting facts about lung cancer detection.

So far they have surveyed 3,945 men over 45 and plan to study a total of 6,000 for 10 years in the Philadelphia Pulmonary Neoplasm Research Project. The preliminary report was made in a recent issue of the *Journal of the American Medical Association.*

The researchers said there is an "impressive contrast" between detection of curable tuberculosis and curable lung cancer in well-conducted mass surveys. While much curable TB can be found, results are not so good for cancer. Despite emergency action in suspected cancer cases found through official Philadelphia chest x-ray units, surgery could be performed in only 30 per cent of 100 consecutive cases. Since finding cancer while it is still in the operable stage is the only present hope for survival, the researchers said these results made them question the suitability of single x-rays for finding curable cancer.

Their project includes chest x-rays plus examinations and interviews about symptoms and smoking habits every six months. So far they have raised the operability rate from 30 to 46 per cent.

However, they said referral to hospitals after finding suspicious x-rays or symptoms is still too slow. Seventeen men were operated on out of 37 proved cancer cases, and only 11 survive. The median interval between examination and operation was 55 days for the survivors and 81 days for the six who died.

They said it was important to note that a high proportion of the men studied had some symptoms. The most important were worsening cough and spitting of blood. Others were chest pain, sense of heaviness, weight loss, hoarseness, continued cough, and wheeze.

The researchers said important factors in curing lung cancer are detection in the operable stage, promptness in seeking medical attention, adequate and frequent examinations, ability to obtain hospital beds quickly, and surgical skill. They said some questions still remain and they hope to answer some of the practical problems through the study.

They also noted that none of the cancer cases found occurred among the 559 nonsmokers included in the survey. However, they said the number of cancer cases was small and they do not imply "any cause and effect relationship."

The report was made by Drs. Katherine R. Boucot, William Carnahan, David A. Cooper, Donald J. Ottenberg, and Peter A. Theodos, and by Thomas Nealon, Jr., MC, USNR.

THORAZINE† BIBLIOGRAPHY (continued)

31. Garmany, G.; May, A.R., and Folkson, A.: The Use and Action of Chlorpromazine in Psychoneuroses, Brit. M. J. *2*:439 (Aug. 21) 1954.
32. Lancaster, N.P., and Jones, D.H.: Chlorpromazine and Insulin in Psychiatry, Brit. M. J. *2*:565 (Sept. 4) 1954.
33. Elkes, J., and Elkes, C.: Effect of Chlorpromazine on the Behavior of Chronically Overactive Psychotic Patients, Brit. M. J. *2*:560 (Sept. 4) 1954.
34. Kinross-Wright, V.: Chlorpromazine—A Major Advance in Psychiatric Treatment, Postgrad. Med. *16*:297 (Oct.) 1954.
35. Tatlow, W.F.T.; Fisher, C.M., and Dobkin, A.B.: The Clinical Effects of Chlorpromazine on Dyskinesia, Canad. M.A.J. *71*:380 (Oct.) 1954.
36. Bower, W.H.: Chlorpromazine in Psychiatric Illness, New England J. Med. *251*:689 (Oct. 21) 1954.
37. Leon, C.A.: The Use of 'Thorazine' as an Adjunct in the Treatment of Schizophrenia, Bull. Tulane M. Fac. *14*:17 (Nov.) 1954.

Intractable Pain

38. Cahn, J.; Dubrasquet, M., and Melon, J.M.: The Effect of Potentialized Anesthesia and Hibernation on Experimentally Produced Myocardial Infarction*, Anesth. et analg. *10*:89 (Feb.) 1953.
39. Lucas, J., et al.: Thorazine as an Aid in Management of Cancer Patients, Proc. Am. A. Cancer Research *1*:30 (April) 1954.
40. Sadove, M.S., et al.: Chlorpromazine and Narcotics in the Management of Pain of Malignant Lesions, J.A.M.A. *155*:626 (June 12) 1954.

Alcoholism

41. Sanguineti, I., and Laricchia, R.: Six Cases of Delirium Tremens Resolved by a Method of "Neuro-autonomic Blockage" Derived from Techniques of Artificial Hibernation*, Minerva med. *44*:1469 (Nov. 17) 1953.
42. Kammerer, T., and Ebtinger, R.: R.P. 4560 (Largactil) in the Treatment of Delirium Tremens*, Ann. méd.-psychol. *112*:102 (Jan.) 1954.
43. Albert, S.N.; Rea, E.L.; Duverney, C.A.; Shea, J., and Fazekas, J.F.: The Use of Chlorpromazine in the Treatment of Acute Alcoholism, Med. Ann. District of Columbia *23*:245 (May) 1954.
44. Cummins, J.F., and Friend, D.G.: Use of Chlorpromazine in Chronic Alcoholics, Am. J. M. Sc. *227*:561 (May) 1954.

Surgery and Obstetrics

45. Laborit, H.: Ganglioplegics in Obstetrical Pathology*, Presse méd. *60*:140 (Feb. 2) 1952.
46. Sénèque, J.; Roux, M., and Huguenard, P.: Reflections on 47 Cases of Anesthesia with Controlled Hypotension*, Mem. Acad. de chir. *78*:333 (Mar. 19) 1952.
47. Forster, S.; Forster, E., et al.: Potentialized Anesthesia in Thoracic Surgery*, Anesth. et analg. *9*:250 (June) 1952.
48. Peruzzo, L.: R.P. 4560, a Potentiator of Anesthesia*, Gior. ital. anest. *18*:404 (July-Aug.) 1952.
49. Heitz, J., and Regent, M.: Potentialized Anesthesia*, Lyon chir. *47*:875 (Oct.) 1952.
50. Laborit, H., and Jaulmes, C.: From Potentiated Anesthesia to Artificial Hibernation*, Toulouse med. *10*:821 (Nov.) 1952.
51. Jentzer, A.: Hibernation, Potentiated Anesthesia, Post-Operative Shock Excluding Controlled Hypotension*, Schweiz. med. Wchnschr. *82*:1215 (Nov. 22) 1952.
52. Lazorthes, G., and Campan, L.: Hibernotherapy and Neurosurgery—Reflections on 72 Cases*, Mem. Acad. de chir. *79*:388 (May 13) 1953.
53. Smith, A., and Fairer, J.G.: Hibernation Anesthesia in Major Surgery—A Report of 36 Cases, Brit. M. J. *2*:1247 (Dec. 5) 1953.
54. Dundee, J.W., et al.: Hypothermia with Autonomic Block in Man, Brit. M. J. *2*:1237 (Dec. 5) 1953.
55. Déchéne, J.-P.: Largactil (R.P. 4560) in Pulmonary Surgery*, Lavel méd. *19*:207 (Feb.) 1954.
56. Dobkin, A.B.; Gilbert, R.G.B., and Lamoureux, L.: Physiological Effects of Chlorpromazine, Anaesthesia *9*:157 (July) 1954.
57. Hershenson, B.B.; Isaac, S.J., et al.: A New Sedative (Antipsychomotor) Drug Useful in Labor—Preliminary Report, New England J. Med. *251*:216 (Aug. 5) 1954.
58. Rizzi, R.: R.P. 4560 (Largactil) as a Narcotic Potentiator*, Der Anaesthesist *3*:58 (Feb.) 1954.
59. Martin, E.M., et al.: A Preliminary Clinical Report on Largactil (Chlorpromazine), Bull. Acad. Med., Toronto *27*:175 (June) 1954.
60. Bierent, M.P.: Chlorpromazine in Ophthalmology*, Presse méd. *62*:1217 (Sept. 11) 1954.
61. Golden, A.A.: Nitrous Oxide-Oxygen Potentiation—A Clinical Study, J. Am. Osteopathic A. *54*:102 (Oct.) 1954.

Miscellaneous

62. Moyer, J.H., et al.: Laboratory and Clinical Observations on Chlorpromazine (SKF-2601-A)—Hemodynamic and Toxicological Studies, Am. J. M. Sc. *227*:283 (Mar.) 1954.
63. Chaptal, J., et al.: Effect of Chlorpromazine (Largactil) on the Chorea Syndrome in Children*, Presse méd. *62*:769 (May 19) 1954.
64. Robinson, K.C., and Zuck, D.: (Letter to Editor), Chlorpromazine in Status Asthmaticus, Lancet *2*:1349 (June 26) 1954.
65. Dobkin, A.B.; Lamoureux, L., and Gilbert, R.G.B.: Conservative Therapy of Peripheral Vascular Disease and the Use of Largactil (R.P. 4560, M & B 2378 and 2601A S.K.F.), Treat. Serv. Bull. *9*:324 (June) 1954.
66. Chesney, W.M.: Chlorpromazine and Jaundice, Brit. M. J. *2*:591 (Sept. 4) 1954.
67. Foster, C.A.; O'Mullane, E.J., et al.: Chlorpromazine—a Study of Its Action on the Circulation in Man, Lancet *2*:614 (Sept. 25) 1954.

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*Translation

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Krebiozen Publicity Flares Up Again

(Continued from Front Advertising Section, Page 62)

ganda to promote krebiozen is no reason for the A.M.A. to change from its previous sound scientific position that the so-called cancer drug is worthless."

In the release, I said, among other things, that:

"There are proper channels for scientific evaluation of any drug and, for the protection of the public and cancer sufferers, these channels should be followed. The krebiozen publicity handouts, which have flooded news desks and magazines in the last few weeks, have in my opinion no regard for exact truth. Further, I believe, that as a result of the emotional appeal being used exaggerated claims are being presented and relevant facts are disregarded, all to the detriment of thousands of cancer sufferers. For humanity's sake there is no need to resort to hucksterism and propaganda designed to affect public opinion.

"All of the evidence regarding the secret cancer substance was reviewed during many weeks of hearings conducted by a commission appointed by the Illinois legislature. A rehash of the facts as brought out at that time is, in our opinion, not only unnecessary, but misleading to the public.

"Long before the commission hearings began in May, 1954, the American Medical Association had scientific evidence to prove that the sensational beneficial effects claimed for krebiozen were unfounded. We believe nothing new has since been offered to change our position. The American Medical Association's report was published after a study was carried out in seven of the top cancer centers of the country, each of which conducted an independent investigation, and each of which came up with the same result: their tests disclosed that krebiozen had no effect on cancer. The American Medical Association's findings were supported by the American Cancer Society, the National Research Council and by a committee of the University of Illinois Medical School faculty members."

—A.M.A. Secretary's Letter

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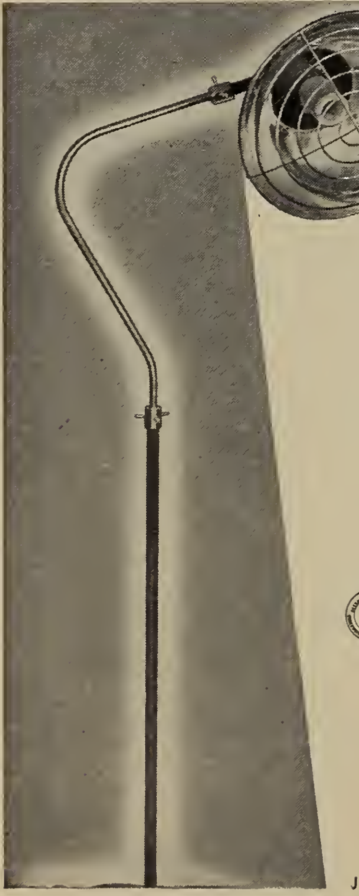

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Psychosomatic Illness Not "All in the Mind"

Internal illnesses resulting from nervous or emotional disturbances are not just "all in the mind," a Philadelphia physician said recently.

Actually, these illnesses involve nerve channels from the brain to the internal organs, and can possibly be treated by drugs which slow down or stop the nerves' actions, Dr. J. Earl Thomas wrote in a recent issue of the *Journal of the American Medical Association.*

The "dream" of treating such diseases by medicine alone has not been realized. But it is possible to make many symptoms disappear, in a disease such as duodenal ulcer, to "the great relief of the patient."

Dr. Thomas said the brain is "an avenue of communication" between external stimuli and internal reactions, and "confusion in the brain is likely to be communicated to the internal organs." Diseases caused by such errors of function are called "psychosomatic." However, he said any influence the brain has on the body must come through material channels, the nerves. Thus, these mental-emotional disorders do have a physical basis in the nervous system.

"The idea that the viscera are in some way involved in the major emotions is as old as recorded history," he said. Emotions, like other experiences, are responses to stimuli and may react in the same way as ordinary reflexes. Once a response is made, the next time the same stimulus appears the response returns and eventually may come if the stimulus is only suggested, such as by memory or imagination. The nerve chain involved thus becomes a "path of low resistance."

If the pathways are stimulated often enough in the same way, the conscious emotional response and the unconscious internal reaction may become permanently associated. They appear at the same time. This may result even from the appearance of nothing more than the circumstances usually associated with the stimulus. This fact may explain the seasonal or annual recurrence of a disease such as peptic ulcer.

Assuming that some diseases, notably peptic ulcer and ulcerative colitis, are started or become worse because of overactivity of the nerves, interference with the paths of low resistance should prevent illness. Dr. Thomas said this is possible with drugs which depress the particular nerves involved.

President's Dinner Dance—Garden Court, Sheraton-Palace Hotel, May 2, 8:00 p.m. Tickets will be on sale *only* at the California Medical Association Office, Sheraton-Palace Hotel. Formal dress optional.

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A.M.A. Supports Eisenhower Health Message

In a three-page news release approved by the Board of Trustees, the A.M.A. announced that it commended President Eisenhower for his health message delivered to Congress on January 31. The second paragraph of the news release, which was given wide distribution among newspapers and press associations, said:

"The A.M.A., through its Board of Trustees, congratulated Mr. Eisenhower on his statement that health proposals to the 84th Congress 'recognize the primacy of local and state responsibility' and would 'encourage private efforts with private funds.' "

The release set out six specific aims, outlined in the President's message, and then told how the A.M.A. had been trying to achieve the same goals for a long time.

Before being sent to newspapers, copies of the release were dispatched to executive secretaries of state and metropolitan county medical societies so they could acquaint themselves with the facts in the event they were approached by newsmen in their own areas.

One portion of the release said that while "the medical profession has been reassured to find that the official position of the government is one of 'trust and confidence' in the ability of private initiative to solve existing problems in the field of medical care, the A.M.A. still believes that the proposed reinsurance system will not achieve the desired result."

—*A.M.A. Secretary's Letter*

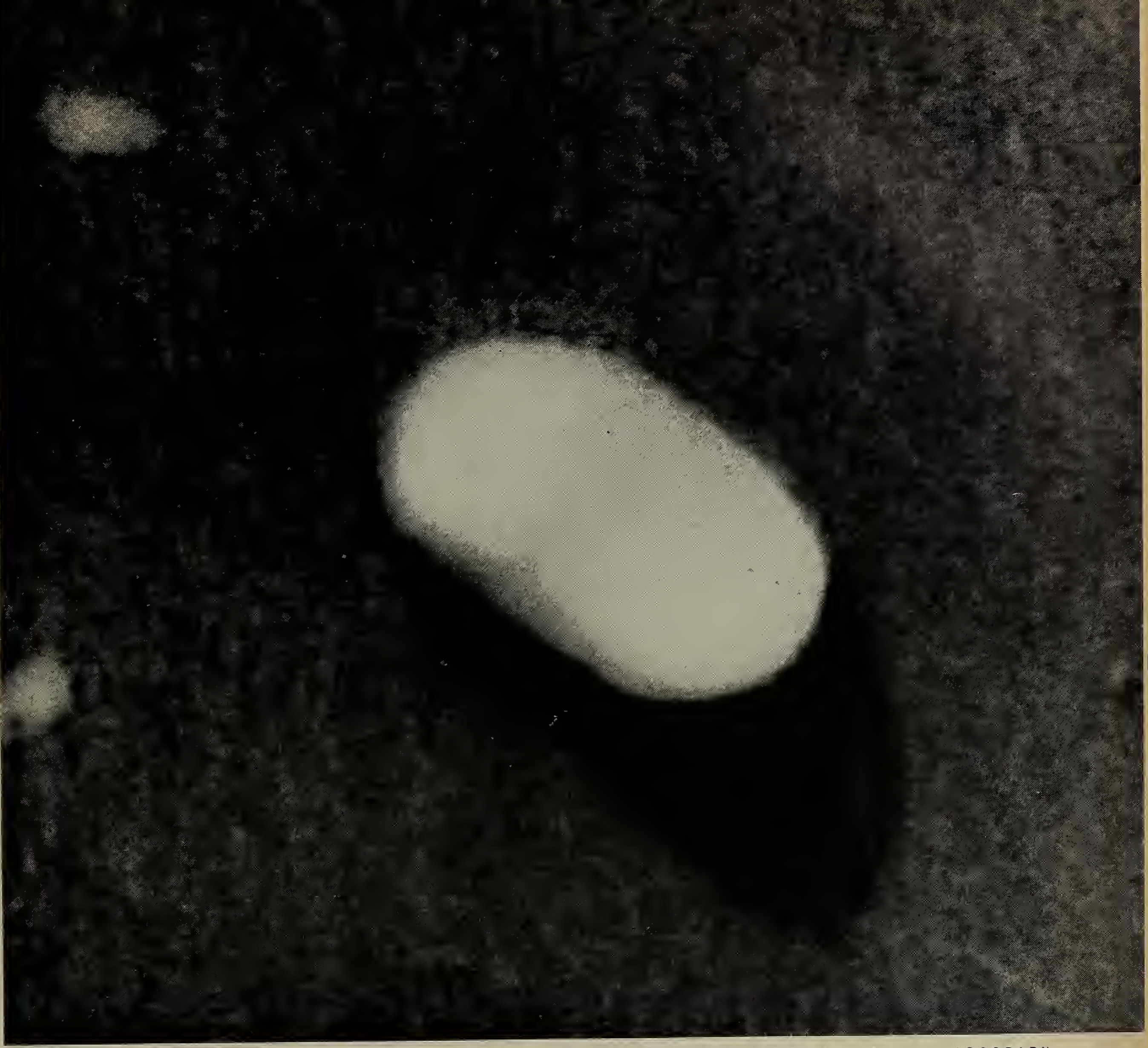
Artificial "Pacemaker" Used on Heart

Electrical stimulation on the outside of the chest was used to help maintain a man's heartbeat for seven days, two New York physicians said.

Drs. Albert H. Douglas and William P. Wagner, Jamaica, N. Y., reported the case in a recent issue of the *Journal of the American Medical Association.* They said the 72-year-old patient's heart began to miss beats after numerous attacks of unconsciousness and convulsions. About 18 hours after the attacks started, the man was in a coma and suffering from lack of oxygen in the blood stream.

They said they applied an "artificial pacemaker," and the patient regained consciousness after two hours. During treatment he was able to eat, drink, and perform other functions easily. The pacemaker operates by use of alternating currents from two electrodes placed on the skin of the chest, which stimulate the heartbeat.

Attempts to remove the pacemaker were followed by unconsciousness and imperfect heartbeats, until after seven days they noted several spontaneous beats. The pacemaker was turned off and then removed. Two months later the patient was seen again, walking about, and without symptoms. The only after-effects appeared to be some skin irritation where the electrodes had been placed.



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Group Living Program Helps Mentally Ill Youngsters

Youngsters suffering mental illness seem to reflect "the turmoil and bizarre behavior" of "normal adolescence," two California physicians said recently.

Drs. Wrenshall A. Oliver and Harry K. Danielson, Imola, Calif., said in a recent issue of the *Journal of the American Medical Association* that this "distortion and disorientation" results when the adolescent is unable to identify himself with other young persons and adults around him.

They said, however, that their experience with a new treatment program for adolescent schizophrenics leads them to hope that the outlook for this age group in general "is not as bad as had previously been supposed."

A specialized program for treating such youngsters was set up at the Napa State Hospital last year, with young patients transferred from adult wards to a cottage housing only adolescents. Group living, and treatment emphasizing social learning seemed to improve them.

The apparent seriousness of the disease in some adolescents has been "startling," the physicians said,

(Continued on Page 92)

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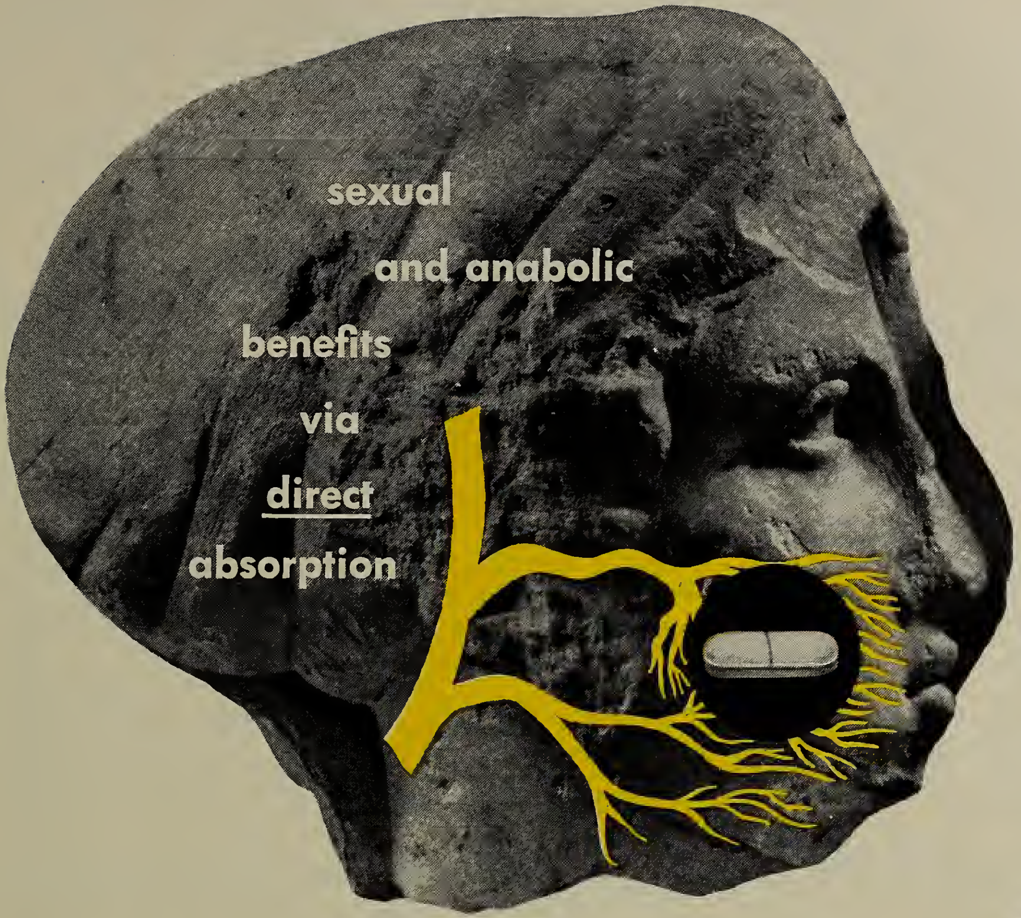

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Group Living Program Helps Mentally Ill Youngsters

(Continued from Page 88)

but some improvement was seen even in the most serious cases. Slowly the youngsters have begun to develop group ties, and seem better adjusted than they were in the wards. The physicians said some patients have responded "remarkably well," making the outlook for them seem brighter in general.

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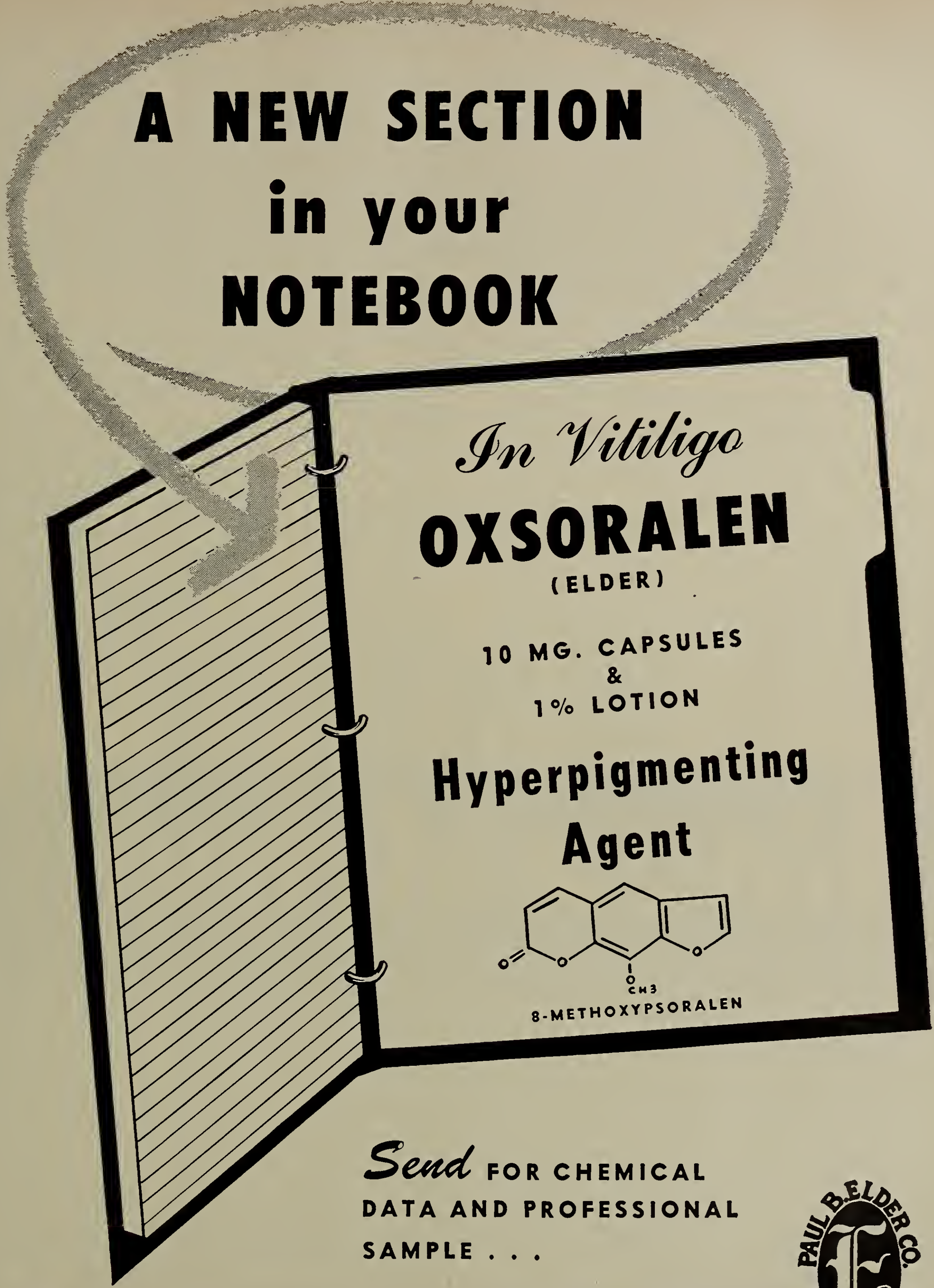

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Children Need Balance of TV, Comics and Books

Comic books and television programs—as such—have little effect on the educational level and behavior of youngsters, a Northwestern University educator says.

However, excessive televiewing and comic reading, and bad comic books and television programs do make a difference, according to Paul Witty, Ph.D., director of the university's psychoeducational clinic. He advised parents and children together to plan "balanced" programs of good TV and comics plus time for more valuable activities such as reading.

Dr. Witty recently completed his fifth annual survey of TV and his twelfth year of studying the effects of comic books. He reports on these studies in a recent issue of *Today's Health* magazine, published by the American Medical Association.

He said investigations showed that children now spend upwards of 20 hours a week with television, and that 90 per cent of boys and girls between 8 and 13 read comic books regularly. Both TV and comic books lose some popularity at the high school age.

The studies made it "clear" that televiewing is not closely related to intelligence or to scholarship. Excessive viewing made some difference; a group of pupils in the upper fourth of their classes were found to spend 20 hours a week at TV compared to 26 hours spent by pupils in the lower fourth. Behavior and adjustment problems associated with TV, as reported by teachers and parents, dropped sharply from 1950 to 1954, but 28 per cent of the teachers and 30 per cent of the parents said there were still problems. These involve such things as eyestrain, fatigue, nervousness, impoverishment of play, and disinterest in school.

The amount of comic book reading, too, is "unrelated to marks in school and to attainment as revealed by standard tests," Dr. Witty said. "In one study we found that the average educational attainment of pupils who were in the upper fourth in amount of comic book reading was almost identical with the average for those in the lower fourth. . . . Similarly, the teachers reported little difference between these groups in the frequency of behavior problems."

Dr. Witty said poor school work and behavior problems involve "lack of interest . . . meager or impoverished experience . . . emotional problems . . . poor home conditions and unfavorable attitudes

(Continued on Page 104)

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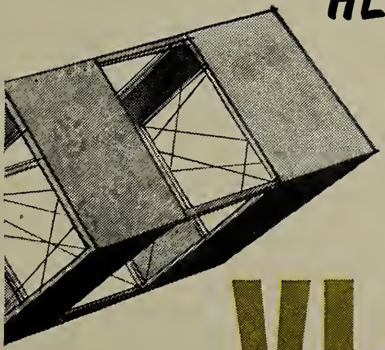

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Physicians Report on Antibiotic Problem

Since antibiotics were developed 14 years ago, physicians have had to face a problem—some disease-causing organisms originally stopped by the drugs later build defenses against them.

Physicians in Chicago and New York report what may be a reassuring development, and suggest a "reasonable solution" to the problem.

Drs. Harry F. Dowling, Mark H. Lepper, and George G. Jackson, Chicago, said that development of new antibiotics will combat the problem but "sooner or later there will be an end to this." After that, the solution is mostly just a question of management.

They said there are two factors involved. First, organisms in the body become resistant while a person is being treated with an antibiotic. This can be overcome partly by using combinations of drugs and by quickly getting rid of the infection and causative factors. Second, healthy persons may carry resistant strains to others. They said appearance of these "carrier strains" must be prevented, and kept from spreading if they do appear. This may be

(Continued on Page 112)

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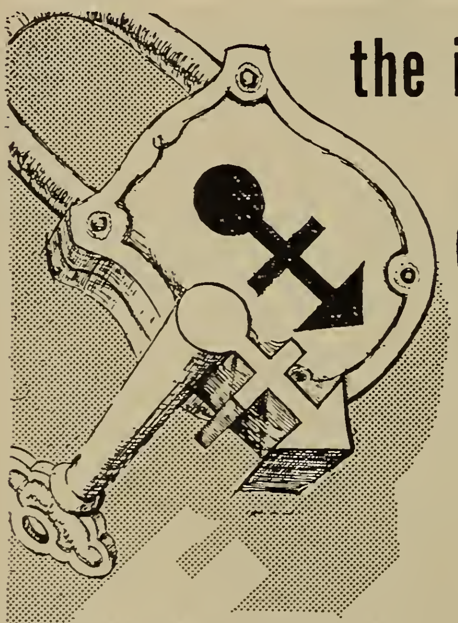

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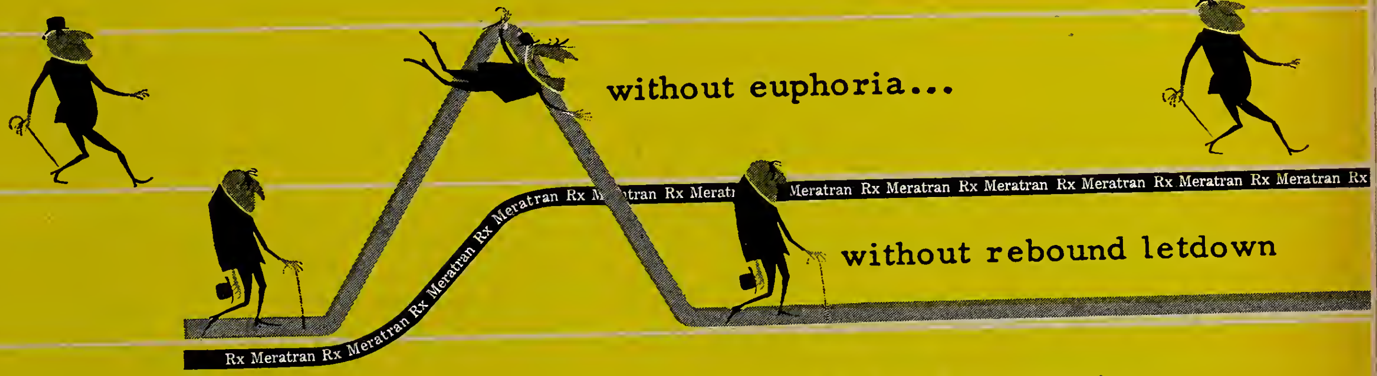
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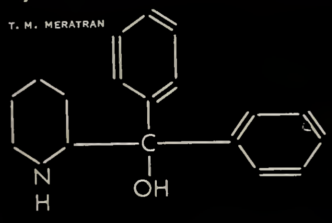

Dosage: For emotional fatigue and mild depression, 1 to 6 mg. daily. *Individual patient response must be observed and daily dosage and duration of administration adjusted to patient response.*

Supplied: Small pink tablets containing: 1 mg. Meratran (pipradrol) hydrochloride.* Bottles of 100.

*Alpha-(2-piperidyl) benzhydrol hydrochloride.

1. Heath, R. C.: Discussion of paper by Howard D. Fabing (alpha-(2-piperidyl) benzhydrol hydrochloride, a new central stimulant in the treatment of blepharospasm, spasmodic torticollis and narcolepsy) presented before the American Neurological Association, Atlantic City, June 14, 1954. 2. Fabing, H. D., Hawkins, J. R., Moulton, J. A. L.: Clinical studies on alpha-(2-piperidyl) benzhydrol hydrochloride, a new antidepressant drug. Presented before the American Psychiatric Association, St. Louis, Missouri, May 3, 1954. 3. Fabing, H. D.: Alpha-(2-piperidyl) benzhydrol hydrochloride, a new central stimulant, in the treatment of blepharospasm, spasmodic torticollis and narcolepsy; preliminary report (Motion Picture Demonstration), American Neurological Association, June 14, 1954. 4. Himwich, H. E.: Discussion of paper (reference 2), American Psychiatric Association, May 3, 1954.

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Children Need Balance of TV, Comics and Books

(Continued from Page 96)

toward reading . . . and the condition of the home." Intelligence and individual differences also contribute, but "in pupils of similar intelligence, the home conditions and parental attitudes may be the differentiating factors in good or poor attainment and adjustment."

"Parents should be increasingly interested in providing the best schools possible for all our children and they should seek to provide the best influence outside the school," he said.

An important factor in this influence is the kind of TV programs and comic books children see. There are "good" TV programs and comic books—but "the number of 'good' is clearly too low and the number of less desirable is far too high."

"Murder, torture, sadism, morbid suspense, and other fear and tension inducing elements are saturating children's minds and physical senses to a degree never before experienced by any generation," Dr. Witty quoted from a report by the National Association for Better Radio and Television. "More money is spent for the production of one half-hour crime western than for the production of the entire 21 program periods classified as 'excellent' by this committee."

Dr. Witty said the "character of America's children and the extent to which this great resource develops will depend to a considerable degree upon the kind of homes provided and the nature of each child's early experience."

A good home is one in which parents are eager for their children to grow and develop and which provides stimulation for reading.

"Moreover the parents and children should together plan balanced programs of recreation with time for children to see TV and read comic books, but also with time for them to engage in other activities of greater value," he said. "Parents in such homes are interested in guiding children to choose the better . . . and to reject the worse. They are interested, too, in seeking to improve current offerings for children on television and in working with other adult groups for fostering the production of better TV programs and improved comics."

Each physician should notify his own secretary regarding the *exact* section he plans to attend at the C.M.A. meeting and the time. It is up to the individual physician to keep his own staff so informed. The Association will attempt to transmit messages to the individual physician if at all possible.

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"...use a little wine for thy stomach's sake and thine often infirmities..."

—Paul

The use of wine in nutrition and in medicine dates back to the beginning of history. It is recorded in the ancient Egyptian papyri, in the Bible—as in the oft-quoted admonition from Paul to Timothy—and in epicurean and medical annals from Hippocrates down to our own times.

In recent years there has developed a demand within the medical profession that the true values of wine be determined, and that fact be separated from folklore. Accordingly, fifteen years ago, research projects in many American medical centers were initiated to determine by modern scientific techniques the food values and medical uses of wine.*

The investigations have brought forth evidence which may be of interest and practical value...

...Wine stimulates the appetite in anorexia, and gently increases gastric secretion.

...Wine serves as a source of quick-energy. Its small amount of hexose is speedily absorbed, and its moderate content of alcohol is metabolized readily, even by diabetics.

...Wine possesses significant diuretic, vasodilating and relaxing properties. The gentle sedation provided by a small amount of wine at bedtime is a pleasant aid in inducing restful sleep.

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correct chronic anemia

Unexplained weakness, easy fatigability, pallor, palpitation, and dyspnea on exertion ordinarily are the tell-tale signs of a chronic anemia in women during the third to fifth decades.[1]

[1] Rath, C. E.: M. Clin. North America 34: 1779, 1950.

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Average adult dose: 3 capsulettes daily. Bottles of 100 and 1000.

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Gains Shown Against Childhood Heart Diseases

A survey of New York City children recently reported confirms "the general impression" that rheumatic fever is losing ground as a threat to children's health.

Dr. Helen M. Wallace and Herbert Rich, of the city's department of health, said there has been "a significant reduction in deaths due to rheumatic heart disease and rheumatic fever in children and youth in the past decade."

"The rate of reduction has been greater in the white group than in the nonwhite," they said in a recent issue of the *American Journal of Diseases of Children*, published by the American Medical Association.

During the same time the pattern of diagnosis shows fewer children with rheumatic heart disease and more children without heart disease being seen in heart consultation clinics, they said.

"More children seen in these clinics are being recommended for educational placement in regular classes in the public schools, indicating either no cardiac handicap or a cardiac handicap of less severity," they said.

They quoted an earlier report on the whole country which showed that from 1919 to 1948 death rates dropped 80 per cent for white children 5 to 14 years old, and about 70 per cent for the 15 to 19 year group. The decreases ranged from 30 to 50 per cent in the nonwhite group. This study showed the highest death rates were in Utah, Delaware, Colorado, the District of Columbia, New Jersey, Pennsylvania, and New York, in that order.

Their study in New York showed that in 11 years there was a 74 per cent drop in rheumatic fever deaths in all persons under 20. The drop was 82 per cent for rheumatic heart disease. Heart diseases were the second leading cause of death from 5 to 9 years of age in 1940. By 1950 heart diseases dropped from the top five in this age group. They dropped from first to third place in the 10 to 14 year group, and from second to third place among 15 to 19 year old persons.

"Undoubtedly, in recent years, several factors have contributed to this changing picture," they said. "The general level of child health has been greatly improved. Improvement in social conditions, in the standard of living, and in nutrition, and some elimination of slum areas are all possible factors."

Infections are being treated earlier and better by new drugs and antibiotics, they said. To continue the improvement, drug treatment of rheumatic fever is "one of the major steps which should be encouraged and promoted in any community which has a relatively high incidence of rheumatic fever." They also said public health programs should emphasize early diagnosis, high quality hospital and convalescent care, proper school placement, and encouragement of proper medication to prevent recurrences.

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Two New Drugs Found More Potent For Arthritis

An "important advance" toward finding a more useful and less objectionable treatment for rheumatoid arthritis was reported recently by physicians at the National Institutes of Health.

Drs. Joseph J. Bunim, Maurice M. Pechet, and Alfred J. Bollet, Bethesda, Md., said two new synthetic steroids used in a preliminary study were found to be several times more potent than hydrocortisone or cortisone, drugs now used for arthritis.

They said the two new drugs, metacortandralone and metacortandracin, were effective in treating patients who had not responded to other treatment. The report was made in a recent issue of the *Journal of the American Medical Association.* The physicians pointed out that this was a preliminary study and that long-term effects could not be predicted.

They treated seven patients with rheumatoid arthritis of two to 25 years' duration. None of them had irreversible joint changes, and none had responded satisfactorily to other treatment. Every patient noted improvement on the same day the new drugs were given. All reported "some easing of joint pain, diminution in stiffness, and a distinct feeling of well-being that occurred four to six hours after the first dose.

"After 24 hours the change was quite marked in several patients, who greeted the second day with enthusiasm," the physicians said. "The familiar morning stiffness was gone, joint pain was further diminished, and functional capacity was decidedly increased."

The symptoms returned in some cases when treatment was stopped, but subsided when drugs were resumed. Some undesirable effects were noted but these were minor and often disappeared as the dose was decreased, they said.

The physicians emphasized that the disappointment in long-term effect with such drugs as cortisone, hydrocortisone and corticotropin might also be found with the new drugs, but their increased potency did not seem to carry with it an increase in severity or frequency of undesirable effects. So far the side-effects seem to be less severe and less common than those of cortisone. They said the preliminary study "gives us reason to believe the search for a more effective therapeutic agent is not without promise."

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Each GRAVIDOX tablet contains: Thiamine HCl—20 mg., Pyridoxine HCl—20 mg. Each cc. of GRAVIDOX parenteral solution contains: Thiamine HCl—50 mg., Pyridoxine HCl—50 mg.

Average dose: 5 to 12 tablets daily, in divided doses, at times when vomiting is less likely to occur; or 1 cc. parenteral solution 2 or 3 times weekly.

LEDERLE LABORATORIES DIVISION AMERICAN Cyanamid COMPANY Pearl River, New York

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*Eisfelder, H. W.: Am. Pract. & Dig. Treat., *5*:778 (Oct. 1954).

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The S. E. MASSENGILL COMPANY

Bristol, Tennessee

Physicians Report on Antibiotic Problem

(Continued from Page 100)

accomplished by proper isolation and by limiting the number of persons exposed to the infected patient.

In some cases, they said, it would be better to use no antibiotics at all or only small doses to suppress infection. The patient instead should be treated partly by depending on his own bodily defenses against infection, by surgery, and by correcting causative defects quickly.

They said they "do not belong to the school of thought that pictures a day in the not too distant future when mankind will be overrun by a plague of antibiotic-resistant organisms. . . ." But they said the problem will remain important, and the only "reasonable solution" is to pay more attention to the patient's own protective mechanisms and his environment.

In New York City, Dr. Carl A. Berntsen found evidence which he said indicates antibiotic resistance may occur only in some types of organisms. He said his tests show that one type of organism, a streptococcus, did not become more resistant to penicillin.

Dr. Berntsen said this might mean that the streptococci, which cause several dozen diseases, may continue to be stopped by penicillin; and the problem of resistance may be limited to the micrococci, which cause diseases such as meningitis.

Both reports were made in a recent issue of the *Journal of the American Medical Association.*

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Appetite Poor?

...here's a practical, natural stimulant for an immediate response

THROUGHOUT the history of medicine, wine—the classic beverage of moderation—has been widely but empirically considered to be a reliable stimulant to the sense of taste.

During the past few years, as part of a scientific study of wine chemistry and physiology, American medical investigators have approached this matter objectively. They have conducted extensive laboratory and clinical tests, and learned that there is indeed a physiological rationale for the use of wine in anorexia*.

Largely because of its natural tannins and organic acids, table wine heightens the ability of a patient to detect faint aromas, to enjoy the flavors of food, and to partake more substantially of needed nutriments.

In anorexic patients, the prescription of such wine in moderate amounts has quickly brought a significant rise in caloric intake and a welcome increase in body weight.

Wine's mild relaxant qualities, observed by many generations of physicians, may also be important in the care of many patients whose lack of appetite stems primarily from tenseness and anxiety.

In addition to its physiological effects, wine can bring an incalculable psychological boost to the patient by adding a touch of color and grace to his diet—by making him feel that he is having "something special"—that he is being treated as a person rather than as a case.

The excellence of California's wines makes them appealing to all, including your connoisseur patients. Their economy makes it possible to prescribe these appetite-stimulating beverages without burdening the patient's budget. Wine Advisory Board, 717 Market Street, San Francisco 3, California.

*Research information on wine is available upon request.

On-Campus Observation of Osteopathic Colleges

An A.M.A. committee, headed by Past President John W. Cline, San Francisco, is presently making on-campus observations of osteopathic colleges.

The committee already has visited colleges in Los Angeles, Des Moines, and Chicago, as well as associated hospitals in Columbus, Detroit, and Flint.

Dr. Cline said his committee hopes to make a report to the Board of Trustees and the House of Delegates prior to the A.M.A. meeting in Atlantic City in June, so that all members of the House will have an opportunity to familiarize themselves with the contents in advance of the session.

The committee has had the advice and active participation of several well known and respected medical educators. Dr. W. Clarke Wescoe, dean of the University of Kansas School of Medicine, participated in the surveys of the Los Angeles and Des Moines colleges; Dr. J. Murray Kinsman, dean of the University of Louisville School of Medicine, participated in the observations at the Chicago and Kansas City schools, and Dr. L. R. Chandler, who recently retired as dean of Stanford University School of Medicine after 20 years of service in that position, will be with the committee at Kirksville.

Dr. Cline said that in every instance members of his committee were shown every kindness and that the administrative heads of the osteopathic schools were most cooperative.

The purpose of the on-campus visits is to determine the nature, scope, and quality of medical education provided in the osteopathic schools. This step dates back to the A.M.A. House of Delegates session in 1952 when a committee for the Study of Relations Between Osteopathy and Medicine, headed by Dr. Cline, was created. The committee has been doing a great deal of work ever since.

Besides Dr. Cline, the committee is composed of Drs. Leonard W. Larson, Thomas P. Murdock, and Julian P. Price, all members of the Board of Trustees, and James Z. Appel, of Lancaster, Pa. Dr. Cleon Nafe of Indianapolis is substituting for Dr. Price on some of the visits.

—A.M.A. Secretary's Letter

Jet Injector Designed for Mass Inoculations

The armed forces now have a new rapid-fire method of giving vaccine injections that's a big improvement over the old needle—but it still isn't completely painless.

The needle-free automatic injector shoots a tiny jet of vaccine right through the skin under about 250 pounds of pressure. It takes about one second, and though it may not be completely painless, army inductees on whom it was tested said it didn't hurt as much as a needle injection given at the same time in the other arm.

Joel Warren, Ph.D., Walter Reed Army Medical Center, Washington, and co-workers Frank A. Ziherl, Arthur W. Kish, and Louis A. Ziherl, Cleveland, reported the development in a recent issue of the *Journal of the American Medical Association.*

The equipment was designed under the direction of the Army Medical Service Graduate School. Its developers said the idea for jet injections is 20 years old, but only "one-shot" devices had been developed. Theirs can be used for mass injections such as those at induction centers and embarkation points. In trial runs, the Army has given triple typhoid vaccine to as many as 1,685 persons daily. These inductees got jet-injected typhoid in one arm and, at the same time, a needle injection of tetanus vaccine in the other arm. Most of the men said the jet injection hurt less, and many said it didn't hurt at all. After a little training, the jet injection operators easily kept up with highly trained corpsmen using preloaded needles.

The device is run by a motor-driven hydraulic pump. The injector unit is built like an automatic pistol with two triggers. The lower trigger reloads and cocks the piston, and the upper trigger "fires." To give a shot, the nozzle of the injector is placed against the arm. A rubber suction cup keeps the nozzle from moving, since a shift of the nozzle while the jet is being discharged could cause a skin cut. The operator pulls the trigger, waits about one second, and it's all over. Pulling the lower trigger readies the injector for the next man.

Besides speeding up mass injections, the device is an improvement since it does not require sterilization after each shot. The dosage chamber does not require changing but is automatically reloaded from a fluid reservoir. The jet rarely will cause any injury, the physicians said, and tested men showed little after-effects except those which sometimes follow any injection of typhoid vaccine.

The developers said with a little simple instruction the machine is easily operated and shots can be given as fast as the men are presented to the operator. The developers said it is "potentially useful" in many military or civilian medical situations where fast, large-scale inoculations are needed. But civilians won't be getting jet injections for a while at least; the units now available are the property of the armed forces and are for use only for research and development.

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*Eisfelder, H. W.: Am. Pract. & Dig. Treat., *5*:778 (Oct. 1954).

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Soft Drinks Used To Aid Heart X-rays

An ordinary carbonated soft drink can be used as an important aid to x-ray diagnosis of heart trouble.

Drs. Elliot Corday, Beverly Hills, Calif., and Milton Elkin, New York City, said they used carbonated beverages in testing for possible heart enlargement in diseases present at birth or resulting from rheumatic fever, high blood pressure, or "hardening of the arteries."

They said in a recent issue of the *Journal of the American Medical Association* that downward heart enlargement often is hidden in x-ray studies by the dense shadow of the stomach. A large air or gas bubble in the stomach eliminates the shadow and makes the heart's area visible. They found that having the patient drink ordinary carbonated drinks such as soda water or ginger ale before x-ray was better for producing a stomach bubble than a previously used powder which had a strong laxative effect.

The physicians gave soft drinks to 210 patients before making x-ray and fluoroscopic examinations. Of these, 98 had normal hearts and 112 had some form of heart disease. They found that the heart area seen after drinking carbonated beverages was

(Continued on Page 26)

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Physician Points Out Fighters' Danger

The most important factor in preventing prize fight deaths is "immediate action" by the referee or a ring physician when a fighter has been stunned but not knocked down, a physician said recently.

When a boxer is so stunned that "his head when hit will bounce like a rubber ball on top of a spring," he is in most danger of being killed, Dr. Charles Harris, Elkins Park, Pa., said in a letter published in a recent issue of the *Journal of the American Medical Association.*

Dr. Harris said the fighter is not in much danger so long as he is able to hold his head firm between the shoulders. This keeps the head from bouncing and the brain from moving inside it, thus preventing strain on the membranes and vessels which hold the brain. The fighters "that are not knocked out" are those whose strong neck muscles "splint" the head in "chin-on-chest" position. He said examples are Marciano, Olson, and LaMotta.

When, however, the jaw is struck and the head moves backward quickly, the bony parts of the head are likely to hit against the brain itself, causing injury. He said a knockout probably results from "mysterious mechanisms" following quick movements of the head and, a split second later, the brain.

"I believe that careful examinations of moving pictures of the bouts in which fighters have died will show that blows were struck that made the head move suddenly through wide arcs," he said. "This is particularly true in the case of Laverne Roache, and I think careful inspections of moving pictures of that fight will reveal that lethal blows may have been struck in the round preceding the last."

Dr. Harris disagreed with two New York State Boxing Commission physicians who previously said they thought most fight deaths result from the fighter's head hitting the floor. They were Dr. Harry Kaplan and Jefferson Browder, Brooklyn, N. Y., who reported on clinical and brain wave observations of boxers during the A.M.A.'s annual meeting in San Francisco last June.

Dr. Harris said they emphasized too much a remark by Jack Dempsey that only "one in a thousand" blows hits the head solidly. He said if the floor were the only cause of ring deaths, the problem "would be easily solved." If the sudden impact of the head hitting the floor can kill a man, "a fist striking the head can also be lethal."

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Home Remedy Overtreatment Causes Skin Disease

Dermatitis from overtreatment with home remedies is one of the leading common skin diseases in this country.

The American Medical Association's Council on Pharmacy and Chemistry has issued a report on the "appalling" incidence of the disease in a recent issue of the *Journal of the American Medical Association.* The report was written by Dr. L. Edward Gaul, Evansville, Ind., dermatologist.

"The public has virtually no knowledge of infection or its prevention, yet persons treat their skin with antiseptics, germicides, disinfectants, and various home concoctions," the report said. "The cause of overtreatment is evident; skin disorders are being treated instead of diagnosed."

The report said common cases of overtreatment skin disease result from applying store or home remedies to minor injuries such as cuts, chemical irritations, infections, sunburn, and athlete's foot. Among the preparations used which have resulted in "overtreatment skin disease" are the organomercurials (such as Merthiolate and Mercurochrome); the sulfonamides; local anesthetics (such as benzocaine, often found in athlete's foot and poison ivy remedies); antihistamines (advertised for relief of itching, sunburn, and poison ivy), and the antibiotics, especially penicillin.

One of the factors making the problem urgent is the large number of chemicals used for skin remedies, and the opportunities for contact with them. They are stored in many medicine chests. Seventeen of 106 remedies for athlete's foot, 5 out of 114 preparations for poison ivy, and some eye and ear remedies contain mercurials. Antiseptics and local anesthetics are available over the counter in many preparations.

"Persons store them indefinitely; they loan them to friends; and they feel they are the answer to all skin trouble," the report said. "The only practical way to free the human skin from overtreatment sensitization is by a program of public instruction."

The report warned the public "to beware of all semiprofessional advice and ideas," and to use only skin preparations ordered by their physician, and nothing else. Remedies should be destroyed when a cure is effected, and not given to anyone else. Among the skin conditions which call for a doctor's attention are:

Puncture wounds from nails, glass, steel wool, thorns, light bulbs, and similar materials; contaminated cuts and scratches; persistent bleeding of all injuries; oozing or bleeding any time during healing or the beginning of irritation; chemical or calamine lotion without phenol; tick or spider

(Continued on Page 26)

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1. Merlis, S.: Diamox: A Carbonic Anhydrase Inhibitor—Its Use in Epilepsy. Neurology. 4:11, 863-866 November 1954.
2. Becker, B.: Decrease in Intraocular Pressure in Man by a Carbonic Anhydrase Inhibitor, Diamox. Am. J. Ophth. 37:1, 13-15 January 1954.

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Soft Drinks Used To Aid Heart X-rays

(Continued from Page 14)

46 per cent larger than that visible on routine x-rays. As much as 32 per cent of the front of the heart was invisible without the soft drink stomach bubble. The stomach bubble not only revealed the size of the heart, which had been mistakenly estimated before, but also its true shape.

The physicians said nearly all of the cases in which enlargement was found were due to high blood pressure or arteriosclerosis, also known as "hardening of the arteries."

Home Remedy Overtreatment Causes Skin Disease

(Continued from Page 22)

bites; all animal bites, and especially human bites; any itching, burning, redness, swelling, suspected infection, or fungus infections.

Little cuts, scratches, and burns should be bandaged with sterile gauze, with bandages changed frequently, and kept dry. Soap, household cleaning agents, wax, and cosmetics should be kept off. An ice cube or cold cloth pressed on the injury will relieve pain.

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Family Role Shown in Hypertension

Three industrial physicians recently said "family history" of high blood pressure should be used by employers—to spot persons susceptible to the disease and perhaps prevent or modify it.

Drs. Constance D'Alonzo, Allen J. Fleming, and George H. Gehrmann, Wilmington, Del., reported in a recent issue of the *Journal of the American Medical Association* on an industry's (E. I. duPont de Nemours) study of hypertension among its employees.

The study of 799 persons 40 years old and over showed that high blood pressure occurred more often among employees whose parents had diseases of the heart and blood vessels. The rate was lowest in those whose families had no history of cardiovascular disease, higher in those in which both parents or the father alone had it, and highest for those in which only the mother did. A study of employees' brothers and sisters showed highest rates when both parents had hypertension. As families grew larger, the percentage of brothers and sisters with hypertension decreased.

The physicians said knowledge of family background "is essential for an understanding of the factors influencing the employees' health," and could have "considerable practical value in such matters as job placement in relation to the present or future physical capacity of employees."

It also could prevent turning down a job applicant because he appears at first to be a bad risk. The physicians studied three chemists for 13 years —one an "ideal" candidate physically, another who might possibly have been turned down for high blood pressure, and a third, the "riskiest" of the group. After thirteen years, the "ideal" candidate had malignant hypertension; the possible bad risk had shown no change, and the "riskiest" of the three showed normal blood pressure. Family history revealed good health among the parents of the two riskier chemists, while high blood pressure appeared in the family of the apparently "ideal" candidate.

The industrial physicians said they felt the preventive approach to high blood pressure has been overshadowed by "heroic efforts" to find a cure. They urged that susceptible persons be spotted before the disease begins to appear, so attempts can be made "to modify or prevent the processes thought to be contributing factors."

C.M.A. Annual Session

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Child's Unusual Hair Growth May Be Thyroid Symptom

An unusual pattern of excess hair in young children may be a sign of thyroid gland trouble, a Philadelphia physician says.

Dr. William H. Perloff reported in a recent issue of the *Journal of the American Medical Association* that he treated four children with unusual hair growth. It disappeared in six to eight months after treatment for thyroid deficiency.

The children had extra hair distributed over the back and shoulders to the waist, along the sides of the arms, and on the fronts of the legs, with a slight increase of hair growth on the sides of the face. The pattern was the same in all four, while some had dry skin and dry head hair.

Dr. Perloff said the unusual hair growth could be a symptom of deficient activity of the thyroid, since all four children were completely or almost completely relieved by thyroid treatment.

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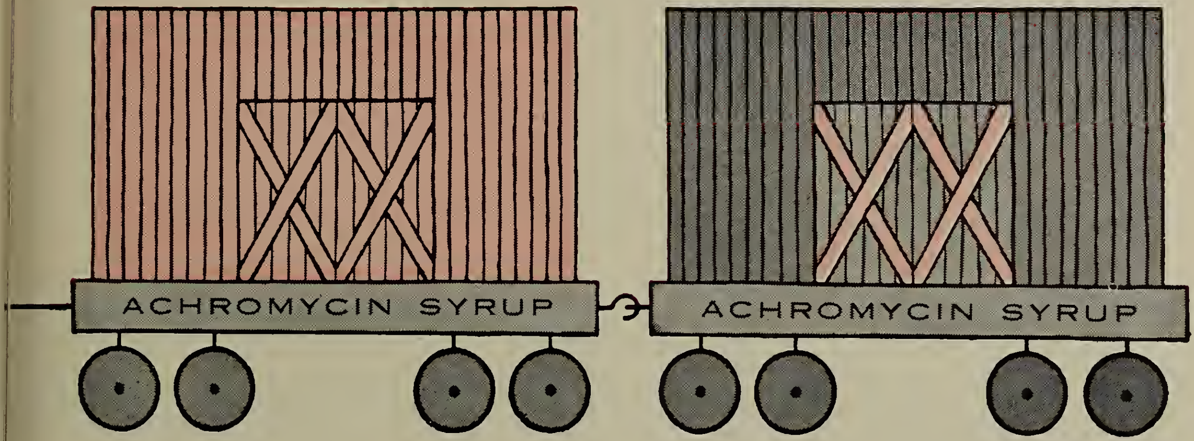

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Causes and Cures Told for Backaches

Standing erect may help distinguish man from the animals but it certainly lets him in for a lot of trouble, a doctor of public health said recently.

Dr. James A. Tobey, Newton, Conn., said the human skeleton "is not particularly well adapted to the upright position," except for a short time when a man is young, "lean, lithe, and buoyant." The rest of his life, he is particularly prone to backache and other ills which might not occur "if he ran on all fours," Dr. Tobey said in a recent issue of *Today's Health* magazine, published by the American Medical Association.

Instead of actually standing erect, many people "slouch and sag, droop and sway," sometimes because of fat or cares and emotional stresses. Other factors are extra high heels, occupational hazards, later stages of pregnancy, strains, and disease. Faulty body mechanics is one of the most common causes, one of the most important, and usually the easiest to correct.

The one-third of each day spent in bed may be a factor, he said. Mattresses should be flat and even, not too soft, and free of "hollows, lumps and slants." But a good mattress is not enough. There are 57 other possible causes of backache, Dr. Tobey said.

One of the most significant is a sudden strain, including a twist, a sudden jerk, or lifting a heavy weight with the back instead of the arms. Communicable diseases such as influenza, pneumonia, malaria, typhoid fever, and smallpox are almost invariably accompanied by backache. Low back pain, usually with mild fever, may indicate an invading virus, and calls for bed rest. Arthritis may also cause backache.

But almost half of "the poor aching back with which the American people are afflicted" are the result of "deep-seated and vexatious nervous and emotional disorders. These back pains are not imaginary; they are very real, but mental stress is the actual culprit."

"In seeking relief from all these different kinds of backache, every sufferer is wise to obtain the most expert care, that of a competent practitioner of medicine who will call in specialists if conditions warrant," Dr. Tobey said.

"Whether your aching back is caused by bad posture, strains, disease, organic lesions, ruptured disks, or emotional tension, in many cases it could have been prevented and in most instances it can be effectively treated," he said. "It is, of course, much better to try to prevent the affliction. This generally can be accomplished by maintenance of good general health, by proper posture, by avoiding overweight, by preventing strains and accidents, by dodging contagions, and by the cultivation of good mental hygiene."

Dr. Tobey notes that "these are not always simple matters in our complex civilization," but they can be attained and are well worth it.

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1. American Medical Association: New and Nonofficial Remedies. J. B. Lippincott Co., Philadelphia, 1954, p. 147.

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(a) All M.D.'s with credentials showing that they hold valid license to practice medicine. (Membership card in C.M.A.: county medical society/association or A.M.A. membership card.)

(b) Medical students will be admitted upon presentation of credentials from their medical schools identifying them as medical students. (A membership card of the Student American Medical Association or letter from their dean's office.)

(c) Medical secretaries will be admitted upon presentation of a letter from the physician-employer.

(d) Pharmacist mates and other military personnel of a like grade will be admitted upon presentation of a letter requesting their admittance, written by their commanding officer.

(e) Dentists (D.D.S.), doctors of veterinary medicine (D.V.M.), registered nurses (R.N.), student nurses, x-ray technicians, laboratory technicians, dietitians, allied public health personnel, and others will be admitted provided they have proper identification.

(f) *All questions on admission will be passed upon by a member of the Committee on Registration who will be present at the desk.*

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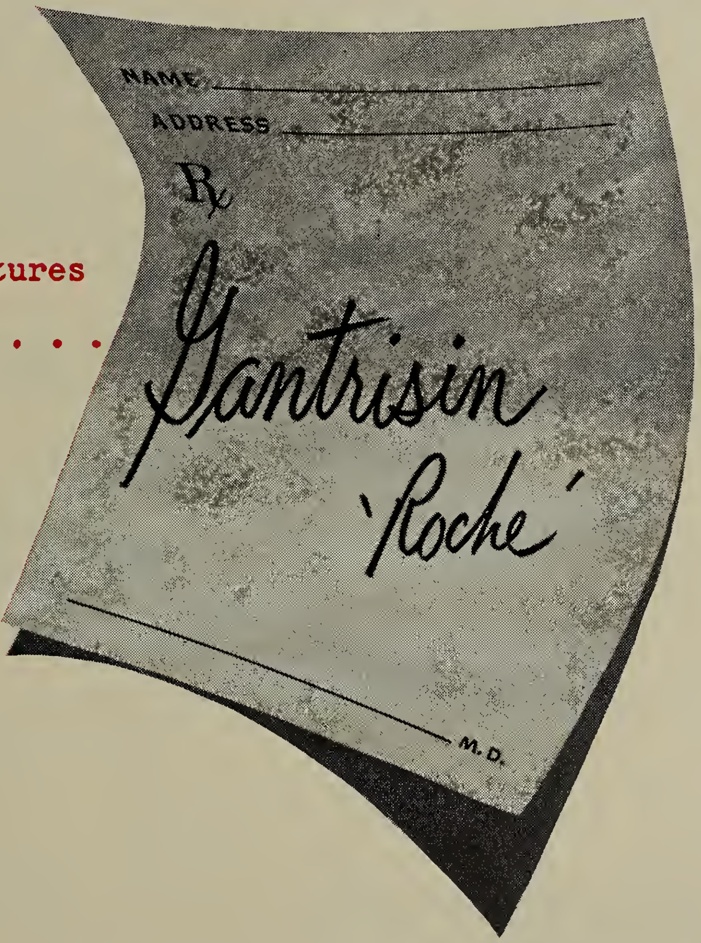

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Simple Test Helps Diagnose Measles

A simple laboratory test has been found helpful in diagnosing measles before the telltale rash appears, two New York physicians say.

Drs. Victor Tompkins and John C. Macaulay, Albany, N. Y., of the New York state health department and Albany Medical College, described the test in a recent issue of the *Journal of the American Medical Association.*

They said they found that patients in the stages of measles before rash appears develop an unusual type of cell in the membranes of the nose and throat. Samples of such cells were found regularly in ten patients from five days before rash to the day it appeared.

The method of taking a cell sample and examining it is simple, they said. While the test has not been used enough to tell whether it will be reliable, they said their own experience has been "so encouraging" that they recommend it for other physicians.

C.M.A. Annual Session

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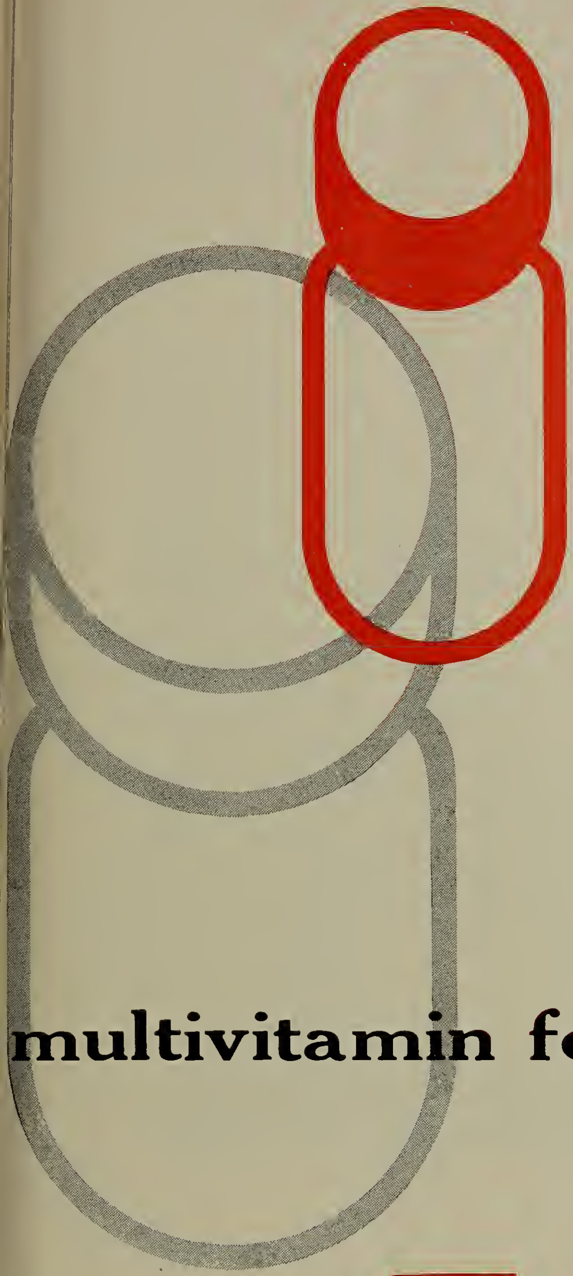

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Folic Acid

New Regulations Recommended for Aspirin and Salicylates

A special advisory panel to the Food and Drug Administration has made a number of recommendations for tightening up on the packaging and distribution of salicylate-containing preparations, mainly to safeguard children. The recommendations are:

(1) Labels of all bottles and packages of salicylate-containing preparations should carry the following minimum statement in bold-face type: "*Warning:* Keep out of the reach of children." (2) Unless the labeling contains specific dosage recommendations for children under three, this warning should be carried: "For children under three, consult your physician." (3) Dose forms of several strengths of children's aspirin are undesirable and manufacturers, wherever possible, should concentrate on a standard strength of children's aspirin of one and one-fourth grains per dosage unit. (4) Manufacturers should not increase their present maximum amounts of children's flavored aspirin per package unit, and development of a safey closure and container should be encouraged. (5) Wider and more effective educational means should be used to inform physicians, pharmacists, and consumers of the hazards involved in accidental ingestion of salicylate-containing preparations.

Representatives of all leading producers of salicylate-containing preparations took part in the panel discussions and concurred in the recommendations. Also participating were deans and professors of colleges and officials of the Food and Drug Administration. Bernard Conley represented the American Medical Association's Committee on Toxicology.

(Continued on Page 54)

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The main point in question remains the ability of HYDROCORTONE or CORTONE to prevent valvulitis. On this score, Kroop[1] in a recent study of 56 patients with rheumatic fever concludes "A two-year follow-up of patients who had sustained initial attacks of carditis indicates that early treatment with large doses may prevent residual cardiac damage." This conclusion is further supported by a recent review[3] which states ". . . many of the reported poor responses of rheumatic fever to treatment occurred in cases in which either very small doses of the hormones were used or treatment was continued for only a short period of time."

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REFERENCES: 1. Kroop, I. G., *N. Y. State J. Med.* **54**:2699, Oct. 1, 1954. 2. Heffer, E. T. *et al., J. Pediatrics* **44**:630, June 1954. 3. Massell, B. F., *New England J. Med.* **251**:263, Aug. 12, 1954.

New Regulations Recommended for Aspirin and Salicylates

(Continued from Page 50)

In explaining the committee's suggestions, Dr. Albert H. Holland, Jr., FDA medical director, said the preparations in question are ordinarily safe in the amounts required for producing an analgesic action, but because their use is familiar to everyone "the public has come to regard them as entirely innocuous." Actually, he said, "aspirin and other salicylates are capable of causing injury and even death when consumed in excessive quantities." Dr. Holland said that in 1952 there were 113 fatal salicylate poisonings, including 86 children under five years of age. Of the latter, 65 involved aspirin, sodium salicylate or a salicylate not further identified, while the others were due to menthyl salicylate."

After studying the recommendations of the panel, FDA will decide what new procedures to put into effect.

—A.M.A. Washington Letter

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—A.M.A. Secretary's Letter

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MEDICINE

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The Kolff-Merrill Artificial Kidney

Clinical Application in Acute Renal Insufficiency

CHRISTOPHER C. SHAW, CAPTAIN (MC) USN, Philadelphia, Pa.

• Acute renal insufficiency is often called "lower nephron nephrosis." Its recognition, its prognostic significance, and its therapy by conservative measures are receiving increasing clinical emphasis. The mortality rate in this complicated syndrome still remains unduly high.

One method of therapy of anuric patients whose lives are in jeopardy because of fulminating uremia or critical potassium intoxication is use of an artificial kidney to "purify" the blood stream by means of extracorporeal dialysis.

The author describes clinical (and laboratory) experience with ten such dialyzed patients, eight of whom presented the classical picture of acute renal insufficiency. Four died, one from unrecognized coronary occlusion, another from antecedent, overwhelming peritonitis. Two other patients with chronic kidney disorders received no benefit from dialysis and died of renal disease.

Good biochemical and clinical response was brought about in six cases of lower nephron nephrosis. Presumably, these six patients would have died had they not been subjected to artificial dialysis.

THE PURPOSE OF THIS COMMUNICATION is to report the author's experience with ten patients who had hemodialysis by an artificial kidney at the United States Naval Hospital in Oakland, California, between July 1953 and June 1954. Six of the patients were in extremis from acute renal insufficiency.

Acute renal insufficiency is a broad descriptive term embracing the bizarre biochemical, clinical and physiologic manifestations induced by sudden decompensation of the kidneys. Bywaters[4, 5] described fatal renal dysfunction complicating extensive crushing injuries received by persons during the bombing of London (1940-41). The syndrome was clearly delineated as "lower nephron nephrosis" by Lucké[10] in 1946. Clinical and laboratory studies of the physiologic changes and extreme biochemical derangements resulting from post-traumatic renal failure were contributed by Beecher[2] and Burnett[3] and their co-workers. During the past decade post-traumatic acute renal insufficiency[6, 7, 8] has been the subject of intensive clinical emphasis and investigation.[15-21] Application of the principle of extracorporeal hemodialysis by means of an artificial kidney[1] is gaining increasing acceptance through the clinical contributions of Merrill and co-workers at the Peter Bent Brigham Hospital in Boston.[11,12,13,14]

The first experimental artificial kidney was devised in the laboratory of Abel, Rowntree and Tur-

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From the Metabolic Research Facility, U. S. Naval Hospital, Oakland (where the author was formerly Chief of Medicine).

Submitted: November 3, 1954.

The opinions or assertions herein are the private ones of the writer and are not to be construed as official or reflecting the views of the United States Navy or of the Naval Service at large.

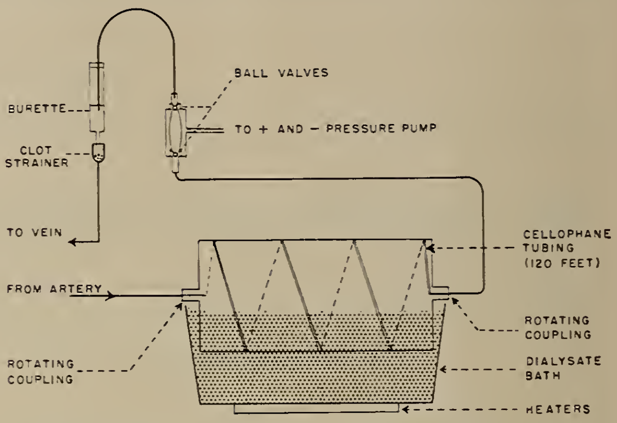
TABLE 1.—*Dialysate bath*

Chemical	Wt. in Grams Per 100 Liters	mEq. Per Liter Sodium	Potassium	Magnesium	Calcium	Chloride	Bicarbonate
Sodium chloride	660	113	..	..	..	113	..
Sodium bicarbonate	225	27	..	..	..	..	27
Potassium chloride	30	..	4	..	..	4	..
Magnesium chloride	22	..	..	2	..	2	..
Calcium chloride	40	..	..	..	5	5	..
Glucose	200	..	..	..	..	..	..
Totals		140	4	2	5	124	27
Normal plasma		142	5	3	5	103	27

ner in 1913[1] but, because of technical obstacles, remained in the research field until 1944 when Kolff, a Dutch physician in Kampen, Holland, built an artificial kidney machine during the German occupation and successfully applied it clinically.[9] He used cellophane tubing as a conduit to carry the patient's blood through an extracorporeal circuit in contact with an electrolyte bath of known composition, equivalent to the concentration of essential electrolytes and glucose in normal plasma (see Table 1).

When cellophane tubing is grossly swollen with water, it possesses capillary channels of submicroscopic size through which molecules of diffusible substances pass from the blood into the bath fluid, or conversely. These submicroscopic fenestra in wet cellophane membrane are permeable to crystalloids (inorganic electrolytes) and to organic substances of small molecular size (urea, creatinine, uric acid, glucose). However, plasma-bound proteins, hemoglobin, red and white corpuscles and platelets are nondiffusible because of their larger structure. The principle on which hemodialysis is based depends on the relative concentration of diffusible molecules in the bath and in the blood stream.

In the last ten years a number of improvements and modifications of this principle have been adopted —notably by Merrill of Boston—and today there are some 50 such machines in the United States. The Kolff-Merrill apparatus provides a large dialyzing area of approximately 24,000 square centimeters, whereas the dialyzing area of the normal kidneys in an adult is approximately 7,600 square centimeters. The larger the surface area, the more efficient the dialysis, other things being equal.



Circuit diagram of Artificial Kidney (after Teschan and McDowell[21]).

Kolff-Merrill Artificial Kidney; preparation of dialysate bath.

TECHNIQUE[23]

Eight hundred milliliters of compatible donor blood is required to prime the coils of cellophane wound spirally around a metal drum. Blood from the radial artery of the patient is conducted by sterile tubing through a continuous extracorporeal circuit of approximately 140 feet, some 120 to 130 feet of which is cellophane in contact with the dialyzing bath. After "purification," the blood is returned to the patient's vein, usually in the antecubital area of the arm from which it is withdrawn. The rotary motion of the metal drum around which the cellophane tubing is wound propels the blood through the machine, and a pump pulls the dialyzed blood into a sterile reservoir whence it flows by gravity to the venous circulation. Heparin is administered to the patient at regular intervals during dialysis to prevent hemocoagulation. The entire circuit must be airtight so that no bubbles enter the system; rate of flow of blood from the artery must equilibrate with the rate of venous return, or vice versa; and there must be no leaks. During a six-hour procedure the total blood volume circulates through the extracorporeal system approximately every 30 minutes. Hence, there are usually 12 complete exchanges or dialyses of the patient's blood with the artificial kidney bath during a typical "run."

CLINICAL EXPERIENCE

In a one-year period 1953-54 ten patients (Table 2) had hemodialysis with the Kolff-Merrill artificial kidney at the U. S. Naval Hospital, Oakland. Of eight patients with acute renal insufficiency, six recovered, two died. The two other patients had chronic terminal renal disease and hemodialysis was carried out in the hope that they might be temporarily improved. In both cases the results were disappointing and did not justify the means employed. Each of the six patients who recovered had acute renal insufficiency that had developed after severe traumatic episodes (see data in Table 2). In each instance the patient was very carefully observed and treated conservatively for a period of seven to 13 days before dialysis was recommended because of extreme azotemia, severe potassium intoxication, or both.

CASE REPORTS

Details of the condition of the patients and the results of hemodialysis are given in the following case reports:

Case 1. A 40-year-old man was very severely injured in an automobile accident on June 28, 1953. Upon emergency operation at the Travis Air Force Base Hospital a huge rent in the liver from the dome down to the free margin of the right lobe was sutured and adequate measures to combat shock were carried out. The condition of the patient remained stable but anuria suddenly developed. Conservative fluid therapy was immediately instituted and the patient was transferred to the U. S. Naval Hospital, Oakland, on July 2, 1953 (the fourth day of oliguria) because serum potassium had risen to 7.4 mEq. per liter. On that date the patient had three grand mal convulsive seizures. The spinal fluid contained 3,000 erythrocytes and 8 leukocytes per cubic millimeter. Bile was draining profusely from the wound in the right side of the abdomen. A neurological consultant was of the opinion that the patient had a subdural hematoma and that craniotomy was indicated. A large clot was removed from the left temporal area and the underlying brain was observed to be badly contused. The following day tracheotomy was necessary for removal of thick mucopurulent material by aspiration.

Between the eighth and ninth day of oliguria the early phase of diuresis began but coincidental with it there was pronounced progression of uremia. Because of the rapid deterioration of the clinical and biochemical condition of the patient, dialysis appeared justified, since uremia during early diuresis often is fatal.

Dialysis was carried on for five hours during the night of July 8, with definite biochemical and clinical improvement. On the day following dialysis there was a diminution in flow of urine to 300 ml. From then on the urine volume per 24 hours progressively increased from 2,255 ml. to 4,200 ml., yet uremia did not diminish. On the seventeenth day after injury, when the patient had reached the late diuretic phase, progressive clearing of retained metabolites began. Appropriate measures were taken during the entire course of acute renal insufficiency to insure normal hydration and electrolyte balance. There were no episodes of hypocalcemia or hypokalemia. Dehiscence of the abdominal wound developed, probably because of hypoproteinemia, but was effectively repaired surgically.

The patient made a brilliant recovery from all the multiple injuries and operations in spite of a loss of 38 pounds, or 25 per cent of the normal body weight (an index of the intensity of the catabolic reaction following severe trauma).

Comment: Dialysis by the artificial kidney carried the patient over a very critical period of acute renal insufficiency and did much to bring about eventual metabolic equilibrium.

Case 2. A 26-year-old man was admitted to the hospital on August 27, 1953, ten days after severe injury in a collision of trucks in which a load of redwood logs pinned the patient in the cab of a truck, thrusting the steering wheel into his abdomen and compressing his legs against the seat. He remained in a jack-knifed position for some two and a half hours before he could be extricated. He was conscious throughout but when released was in shock. Emergency treatment was given in another hospital where it was noted that the signs and symptoms of acute renal insufficiency with fulminating potassium intoxication were present. Glucose and insulin were given intravenously and hydrogen cycle, carboxylic acid resins were administered by rectum. In spite of these measures the serum potassium continued to rise and the electrocardiographic pattern deteriorated.

Shortly after admission to the U. S. Naval Hospital, Oakland, on the tenth day of acute renal insufficiency, hemodialysis with the artificial kidney was carried out. This procedure was continued uneventfully for a six-hour period at flow rates between 225 ml. and 250 ml. of blood per minute. There was pronounced temporary improvement in the patient's condition both biochemically and electrocardiographically. However, he died of acute myocardial infarction five days later. (The diagnosis was confirmed at autopsy and the kidneys appeared normal on gross inspection.)

TABLE 2.—*Runs on artificial kidney at the U. S. Naval Hospital, Oakland, California (July 1953 to May 1954)*

No.	Date	Age	Status	Diagnosis	Indication	No. of Courses of Dialysis	Remarks	Outcome
1	7- 8-53	40	Major USAF	Acute renal insufficiency; post-traumatic	Uremia	1	3 fractured ribs, ruptured liver, contused lung, no K-intoxication; subdural hematoma.	Recovered
2	8-27-53	26	Civilian	Acute renal insufficiency; crush syndrome	K-intoxication	2	Suddenly expired 9-1-53; complete occlusion, right coronary A.	Died
3	9- 3-53	35	Airman, 3rd class, USAF	Acute renal insufficiency; post-traumatic	Uremia	3	21 fractures, flail chest, anterior mediastinitis, sternal osteomyelitis, oliguria 21 days hypernatremic encephalopathy.	Recovered
	9- 7-53				K-intoxication	4		
	9-11-53				K-intoxication	5		
4	9-21-53	34	Civilian	Acute renal insufficiency; incompatible transfusions	Uremia; hypotonicity	6	Extensive hemolyses caused by incompatible blood.	Recovered
5	10-20-53	40	Civilian	Chronic pyelonephritis	Uremia	7	Cerebral hemorrhage morning after dialysis.	Died
6	12-12-53	29	Civilian	Acute renal insufficiency; shock	Uremia	8	Ruptured uterus, defibrination, pelvic cellulitis; duodenal ulcer.	Recovered
7	1-16-54	66	Retired USN	Acute renal insufficiency; dehydration	Uremia	9	Acute renal insufficiency following colostomy for cancer of rectosigmoid, and peritonitis; recovered from acute renal insufficiency.	Died of antecedent infection
8	1-29-54	20	USN	Subacute glomerulonephritis	Uremia; K-intoxication	10	Developed oliguria and remained so until death. 2-10-54.	Died
9	4- 2-54	33	Civilian, dependent	Acute renal insufficiency; shock	Uremia; K-intoxication	11	Postcesarean section.	Recovered
10	5- 3-54	24	Civilian, dependent	Acute renal insufficiency; hemolysis; wrong blood, septicemia, hyperpyrexia	Uremia	12	Primary trouble—pelvic inflammatory disease (abortion).	Recovered

Comment: In this patient the immediate results of extracorporeal dialysis were encouraging. Death from coronary occlusion occurred on the fifth day after dialysis. There is no known correlation between acute renal insufficiency and death from myocardial infarction.

CASE 3. A 35-year-old man was admitted to the U. S. Naval Hospital, Oakland, on September 3, 1953, from the Parks Air Force Base Hospital with acute renal insufficiency as a result of extreme injuries received in an automobile accident on August 24, 1953. The patient had a "flail" thorax due to complete fractures of ribs 1 through 6 posteriorly on the right side and 2 through 5 on the left. In addition there was comminuted fracture of the right femur, tibia and fibula, simple fracture of the left clavicle, compound, comminuted fracture of both maxillae, concussion of the brain, multiple contusions of the soft tissues and lower nephron nephrosis.

On the eleventh day of extreme oliguria the biochemical findings indicated severe uremia and there was pronounced clinical deterioration. Despite the gravity of the patient's condition, it was decided to transfer him to the Naval Hospital for hemodialysis.

Although the immediate response to dialysis with the artificial kidney was considered satisfactory, the urine volume remained inadequate and uremia progressed. Four days later, serial electrocardiograms indicated progressive potassium intoxication and hemodialysis was carried out again. Again there was an adequate response both clinically and biochemically. However, the benefit was transient, and in the next two or three days the patient became more uremic, hyperkalemia developed and there were cardiac manifestations of potassium intoxication. Hydrogen cycle resins were administered by stomach tube and later by proctoclysis. This provoked refractory diarrhea and resulted in a striking decrease in biochemical reserves. The condition of the patient rapidly became critical and the outlook appeared all but hopeless.

Extensive osteomyelitis of the sternum developed from the compound fractures at the time of the original accident and the infection was extremely difficult to treat. The body temperature became "septic" in character and dehydration rapidly developed. There was pronounced wasting of the tissues indicative of an intense catabolic reaction. Near-lethal potassium intoxication on September 11, 1953, demanded dialysis for the third time. Oliguria continued until the twenty-first day, when gradually the early diuretic phase began and eventually the patient made a satisfactory recovery. The early part of the period of convalescence was characterized by hypernatremia (which will be reported elsewhere).

Comment: Extracorporeal dialysis on the artificial kidney was employed three times on this particular patient: first, because of uremia, and in the second and third instances because of fulminating potassium intoxication. It is felt that these three procedures sustained life in the patient through a very critical period of acute renal insufficiency.

CASE 4. The patient, a 34-year-old woman, was admitted to the U. S. Naval Hospital, Oakland, by transfer from a civilian hospital, September 20, 1953, with a diagnosis of lower nephron nephrosis due to transfusion of incompatible blood.

Twelve days earlier the patient had been operated upon elsewhere because of chronic backache. A spinal fusion bone graft was performed and the patient withstood the procedure fairly well. Because mild hypotension developed, two bottles of Dextran were given intravenously. The effect of this plasma expander was dissipated within five hours or so, and hypotension recurred. The patient then received 500 ml. of whole blood. The following day two additional bottles of whole blood were given and during the transfusion a chill developed, unaccompanied by fever or urticaria. Subsequently, the patient became jaundiced and oliguric. It was then established that the blood of the patient was Rh-negative and that she had received Rh-positive blood. The anti-Rh titer was 1:156, which confirmed incompatibility.

The patient was seen in consultation by the author on the ninth postoperative day. The signs and symptoms of full-blown acute renal insufficiency were present—azotemia, protracted vomiting and hyponatremia. Conservative treatment was recommended but on the twelfth postoperative day hemodialysis was performed because of severe clinical uremia, continued emesis and progressive hyponatremia. No increase in hemolysis was noted during the time dialysis was being carried out and the patient tolerated the procedure well. Fortunately, diuresis began spontaneously on September 22, 1953, the first day after dialysis, and proceeded uneventfully.

Intermittent vomiting amounting to as much as 1,100 ml. of vomitus per day was the only complication during the postdialysis period. Normal electrolyte values were maintained with difficulty, but 14 days after dialysis the patient's general condition had improved sufficiently to warrant transfer from the Naval Hospital to another hospital for convalescence. The patient was seen at intervals of one, three, six and nine months following the episode of acute renal insufficiency and appeared clinically to be well.

Comment: The artificial kidney carried the patient over a uremic "hump" and promptly reversed the clinical and biochemical deterioration. Upon removal of the toxic metabolic "load," the kidneys gradually elaborated sufficient urine to clear the blood stream, and spontaneous recovery ensued.

CASE 5. The patient, a man 40 years of age, had a history of chronic, recurrent pyelonephritis of ten years' duration. Multiple urologic measures, both medical and surgical, had not abated infection in both renal pelves.

In August 1953, exacerbation of the disease induced uremia. On October 1, 1953, the patient was admitted to the University of California Hospital in a convulsive state. He was treated conservatively with appropriate supportive measures but his condition steadily deteriorated, as manifest by severe bleeding tendency, progressive hypertension, recurrence of coma and pulmonary edema. The response to digitalis therapy was far from satisfactory.

Because of extreme uremia and acidosis, the patient was transferred to the Naval Hospital on October 19, 1953, for hemodialysis with the artificial kidney. The procedure was without untoward incident, and the patient's condition remained stable for some eight hours. Then signs and symptoms of cerebral hemorrhage developed and the patient died within three hours of the onset of symptoms. At autopsy the clinical diagnoses of chronic pyelonephritis and cerebral hemorrhage were confirmed.

Comment: In this case, death was directly related to dialysis, presumably because of heparinization in the presence of severe bleeding tendency and pronounced hypertension secondary to basic and chronic renal infections. In retrospect, the artificial kidney had nothing to offer this particular patient and use of the procedure was contraindicated.

CASE 6. A 29-year-old woman was admitted by transfer from another hospital to the U. S. Naval Hospital, Oakland, on December 11, 1953, because of acute renal insufficiency following spontaneous rupture of the uterus one week earlier, which had necessitated emergency hysterectomy and multiple transfusions. Anuria promptly developed as the first evidence of lower nephron nephrosis. When seen in consultation by the author the patient was desperately ill with azotemia, acidosis and hyperkalemia secondary to acute renal failure. The surgeon who had operated reported a large hematoma in the base of the broad ligament on the left and another in the subcutaneous tissues of the abdominal wall. The patient also complained of blindness in the left eye, due to thrombosis of the central retinal artery.

Transfer to the U. S. Naval Hospital was on the seventh postoperative day. Because of severe potassium intoxication, hemodialysis was promptly begun and the procedure was continued six hours.

By the following night the patient appeared much improved. She was well oriented and the cardiovascular system appeared to be stable. The serum potassium began to rise again, however, and there was other evidence of biochemical deterioration. Dialysis for the second time appeared mandatory. Fortunately, spontaneous diuresis began on the tenth day (the second day after dialysis) and by the twelfth day the 24-hour volume of urine had reached 3,000 ml. In spite of this the electrocardiogram showed evidence of serious potassium intoxication which cleared belatedly without further resort to the artificial kidney. Toxemia due to persistent vomiting, dehydration and severe sepsis further complicated the diuretic phase. The prognosis was considered very poor due to multiple infections of the pelvic viscera with Pseudomonas and a flavochromobacterium highly resistant to all antibiotics except chloramphenicol.

Because of severe aphthous stomatitis, parenteral alimentation was employed for a period of one month. Carbohydrate and fat, given by vein, were the mainstays of nutrition. Amino acids were not tolerated. Multiple small transfusions were given in the early convalescent phase but not during the period of oliguria or during the uremia of early diuresis. Gradually, intravenous alimentation was discontinued as the patient began to tolerate small oral feedings. Energetic measures then were employed to insure nutritional rehabilitation.

After transfer of the patient to a civilian hospital hematemesis of some 600 ml. of blood from a stress ulcer of the duodenum developed suddenly. Ulcer therapy was begun promptly and in due time there was complete healing of the duodenal lesion. The patient was observed at two-month intervals thereafter. She regained strength and weight and when last observed was doing her own housework and taking care of two young children.

Comment: In this case acute renal insufficiency developed secondary to spontaneous rupture of the uterus and subsequent shock. The eventual recovery of the patient is ascribable to the cooperation between the surgeons, the internists, the physiologist, the bacteriologist and the biochemist, all of whom played equally vital roles. The artificial kidney was employed at the peak of uremia and well may have turned the tide in favor of eventual recovery.

CASE 7. A 67-year-old man entered the hospital on January 7, 1954, with history of abdominal pain, vomiting and obstipation of four days' duration. There had been a loss of 20 pounds in body weight in the preceding three months. Urination five or six times each night had been noted over the previous eight weeks. The clinical diagnosis of ruptured viscus was corroborated by x-ray films which showed fluid levels in the small bowel and free air or gas beneath the diaphragm.

At operation carcinoma was observed in the rectosigmoid, which had perforated. Some 500 ml. of brownish, foul-smelling fluid was aspirated from the pelvic peritoneum. An annular carcinoma was resected and colostomy was carried out. After the operation the urine volume fell to critically low levels characteristic of acute renal insufficiency. The maintenance of a conservative fluid intake regimen was complicated by the presence of peritonitis.

When first seen by the author on the seventh postoperative day, dehydration was evident; in addition to peritonitis there was extensive phlebitis of the veins of the left arm from multiple intravenous infusions. The blood urea nitrogen was 215 mg. per 100 cc., serum sodium 128 mEq. per liter, chlorides 79 mEq. per liter, and serum potassium 7.6 mEq. per liter. In the presence of this extreme uremia, adequate hydration was not attempted for fear of precipitating pulmonary edema. Use of the artificial kidney was recommended.

Hemodialysis was done for a period of six hours on the ninth postoperative day. The onset of diuresis more or less coincided with extracorporeal dialysis;

but in spite of this fortunate happenstance, uremia progressed apace. When drainage from the artificial anus began, three days after hemodialysis, uremia soon cleared spontaneously.

On the tenth day after dialysis, however, there was a sudden episode of cardiovascular collapse. It was held by consultants that this was due in part to adrenal cortical failure, and cortisone was administered in fairly large dosage. Within three or four days the patient began to have a "septic" temperature. The blood sugar levels rose to values ranging between 400 and 500 mg. per 100 cc.—in all likelihood owing to the diabetogenic action of cortisone. Azotemia had completely cleared by the twenty-ninth day after dialysis, but 35 days after dialysis the patient died of overwhelming infection of the peritoneum. The cause of death was conclusively demonstrated at autopsy.

Comment: This case is a striking example of the lethal effect of cortisone in the presence of an established infection; the infection became overwhelming after uremia had been controlled by the artificial kidney.

CASE 8. A man 20 years of age was admitted to the urology service of the U. S. Naval Hospital, Oakland, on December 9, 1953 with a two-week history of gross hematuria accompanied by only mild bilateral backache. After careful examination it was demonstrated by intravenous pyelograms that there was little or no function of either kidney. The patient was therefore transferred to the medical service.

Continued bed rest and a diet low in proteins brought about no improvement. Because of progressive anemia, blood was transfused cautiously a number of times but there was no change in the peripheral blood picture or in the course of glomerulonephritis. The patient gradually became extremely acidotic and uremic. Because of the remote possibility that hemodialysis might help, the artificial kidney was applied on January 29, 1954. Temporary clinical and biochemical improvement ensued. However, the urine volume remained extremely low and vomiting continued apace in spite of a ravenous appetite.

Convulsive seizures occurred for the first time on January 31, 1954. The blood pressure rose progressively to 200/120 mm. of mercury and to as high as 230/136 mm. The patient to all intents and purposes became blind, and bloody diarrhea developed from uremic gastroenteritis. On February 9 he became paraplegic; electrocardiograms indicated rapidly advancing potassium intoxication; respirations became rapid and gasping; and the patient died early on the morning of February 10.

Comment: The patient undoubtedly had acute glomerulonephritis or a fulminating exacerbation of chronic glomerulonephritis. Although hemodialysis with the artificial kidney improved the condition of the patient temporarily, it in no wise influenced the malignant course of the basic renal disease. In such cases extracorporeal dialysis is contraindicated if for no other reason than that it gives the physician, the patient and the family false hope.

CASE 9. A 33-year-old woman was admitted to the U. S. Naval Hospital on March 26, 1954. She had been seen in consultation at the Stanford University Hospital where she had first been admitted on March 17, 1954. There was a past history of cesarean section in 1951 because of placenta previa. Laparotomy was performed a year later for lysis of adhesions which had caused intestinal obstruction. Cesarean section was recommended again on March 17, 1954, and the patient stood the procedure well; the baby was normal and living.

About nine hours after operation, circulatory collapse occurred. The blood pressure fell to 70/0 mm. of mercury, the pulse was rapid and signs of vascular shock were present. Four units of blood were tranfused promptly—one bottle of Type O blood with neutralizing factor and three bottles of compatible A-1 Rh-positive. As soon as the circulatory collapse responded to this therapy the patient was returned to surgery and the abdomen was reopened. A retrocystic hematoma of some 1,200 ml. of blood was evacuated.

Oliguria developed. Acute renal insufficiency probably resulted from circulatory collapse, but incompatible blood was a possible etiologic factor. The patient was transferred to the Oakland Naval Hospital on March 26, 1954, because excellent conservative therapy had not alleviated lower nephron nephrosis. An electrocardiogram tracing at the time of admittance there was comparable to a continuous sine wave. The serum potassium was 10.2 mEq. per liter. Glucose and insulin were immediately given by vein and produced a temporary striking improvement in the conduction defect while the artificial kidney was being set up. Hemodialysis was carried out for six hours with fairly good biochemical response. Clinical improvement was encouraging, and on the day following dialysis (the eleventh day of oliguria) diuresis began spontaneously. However, serum potassium and blood urea nitrogen remained high over the next five days. (This is a rather frequent phenomenon in such circumstances and corroborates the observation that uremia does not reach its meridian until four, five or even six days after the onset of diuresis.) There was a loss of seven liters of fluid, approximately 488 mEq. per liter of potassium and some 300 mEq. per liter of sodium in the urine between the tenth and fifteenth days. Electrocardiograms then gave evidence of hypokalemia and it became necessary to administer potassium intravenously.

On the twenty-third postoperative day the patient had muscular fibrillations, twitching, athetoid movements, wide dilation of the pupils and mental confusion. There was increased neuromuscular irritability and carpal spasm. This was found to be due to alkalosis and low serum calcium. The patient responded promptly to the administration of additional calcium which corrected the electrolyte imbalance. Two attempts were made to hasten convalescence by means of blood transfusions but one attempt resulted in mild chill and the other an elevation in temperature and on both occasions, therefore, the procedure was promptly discontinued. The patient was discharged to return home on April 23, 1954, the thirty-fourth day following operation (the twenty-fifth day after dialysis).

Comment: Hemodialysis carried the patient over a very critical period of acute renal insufficiency that was characterized by potassium intoxication, and contributed much to eventual recovery. The syndromes of hypokalemia and hypocalcemia during diuresis required electrolyte replacement therapy and deserve special clinical emphasis.

CASE 10. A 23-year-old woman was admitted to the U. S. Naval Hospital, Corona, Calif., on April 26, 1954, because of acute onset of chills, fever and general toxemia of three days' duration. The prodromal history and symptoms were obscure. For three weeks the patient had applied a sulfa ointment daily to combat pruritus vulvae and vaginitis. For the last seven days of that period she had experienced loss of appetite, nausea and pain in the flank. Twenty-four hours before admission she had been a patient in an osteopathic hospital where, it was reported, body temperature of 107° F. was recorded and it was noted that she was anemic. Because of this "anemia" (cause undetermined) 500 ml. of whole blood (Type A, Rh negative) had been given. Shortly thereafter the patient became anuric and semicomatose. Her husband promptly arranged for her transfer to a military hospital.

Upon admission to the Naval Hospital at Corona, tentative diagnoses included: uterine infection after abortion, septicemia, lower nephron nephrosis, blood transfusion reaction and hemolytic anemia from sulfa medication.

The total urine volume over the next three days did not exceed 175 ml. in spite of energetic but ill-advised over-hydration—500 ml. of whole blood on April 27, 1954, plus 3,000 ml. of dextrose in water and another 1,000 ml. of blood the next day. On April 29 no urine was voided. Acidosis was extreme, uremia progressive and clinical deterioration fulminating in character. On April 30 urinary output again was nil, and the patient was transferred to the U. S. Naval Hospital, Oakland, for hemodialysis. Physical examination confirmed the findings of the admitting medical officer—cervicitis, pyometritis, salpingitis, peritonitis, septicemia, intestinal obstruction, and lower nephron nephrosis.

Because of acute renal insufficiency the patient then was managed conservatively for three days. Intensive antibiotic therapy was employed with minimum intake of fluid—800 to 1,000 ml. daily. Urine volume rose slowly, from nothing, then to 100 ml. and to 125 ml. on May 3. On that day the patient passed a tarry, liquid, black stool. Also there was intermittent epistaxis and spontaneous bleeding from the gums. Since this was the eighth day of extreme oliguria and because epistaxis, hemorrhagic gingivitis and melena are considered ominous complications of uremia, a decision was promptly reached to carry out hemodialysis. The artificial kidney was applied for six hours on that day without untoward incident. The biochemical response was adequate to carry the patient through this critical period of uremia. Diuresis developed spontaneously on the fourth postdialysis day and satisfactory clinical improvement occurred within a week. Convalescence was prolonged by persistent anemia, secondary to generalized sepsis and lower nephron nephrosis. When last observed, six weeks after dialysis, renal function was gradually returning to normal.

Comment: In this case, acute renal insufficiency may have been produced by a number of factors—abortion (self-induced), pelvic inflammatory disease, septicemia, drug toxicity and by shock from transfusion reaction. Regardless of the cause or causes the clinical syndrome is uniform and follows a familiar pattern of transient anuria, prolonged oliguria, progressive uremia, severe electrolyte derangements (with or without dangerous potassium intoxication) and concomitant biochemical, physiologic and clinical deterioration. Management in this case was complicated by severe, almost fatal sepsis. After the generalized infection was overcome by intensive antibiotic therapy, the problems of acute renal insufficiency continued unabated. They were solved, in part, by conservative management and by judicious extracorporeal hemodialysis with the artificial kidney.

DISCUSSION

Clinical management of acute renal insufficiency is usually difficult and at times discouraging[22] but a majority of patients will respond to conservative measures. The causes of death in the remaining minority are pulmonary edema, extreme uremia, fulminating potassium intoxication and overwhelming sepsis from infection usually introduced at the time of the original trauma, which in turn precipitated the lower nephron nephrosis. Conservative therapy with special emphasis on proper hydration of each individual patient (scrupulously avoiding overhydration) is the keystone of the therapeutic arch.[17] In lower nephron nephrosis total fluid intake per day must be limited to the volume of urine excreted in the previous 24 hours plus the volume of stool or vomitus together with a daily allowance of 700 to 750 ml. for water lost by evaporation through the skin and as water-vapor from the lungs. This "insensible water loss" is constant, seldom exceeds 800 ml. per day and must receive diligent attention during the entire phase of oliguria.

In the event diuresis does not come about spontaneously within seven to 14 days, extracorporeal hemodialysis may become mandatory to correct the severe electrolyte imbalance that occurs as a result of acute failure of the renal excretory mechanism.

Since uremia may not reach a meridian until five or six days after onset of diuresis, dialysis may be mandatory during the late phase of oliguria or the early stage of diuresis, if complicated by hyperkalemia (serum potassium levels of 8 to 11 mEq. per liter) or if there are other biochemical signs of metabolic bankruptcy.

However, the artificial kidney does not necessarily induce diuresis. It merely provides a "renal respite" until such time as regeneration of the tubular epithelium can initiate adequate urine flow spontaneously. Extracorporeal hemodialysis, therefore, is recommended and undertaken only with the hope that it will temporarily relieve the kidneys of an overwhelming load of toxic metabolites and thereby pave the way, indirectly, for spontaneous recovery of the excretory function. Thereafter, renal homeostasis may be restored gradually over the next six to twelve months.

Clinical management of the syndrome of acute renal insufficiency should be predicated on cordial and prolonged collaboration between the internist, surgeon, physiologist, urologist, biochemist and reliable laboratory technicians.

CONCLUSIONS

In reviewing these ten cases it becomes apparent that the use of the artificial kidney is not warranted in infectious processes or possible allergic states such as acute glomerulonephritis or an acute exacerbation of chronic nephritis. The author's experience with chronic pyelonephritis is likewise discouraging. Hemodialysis is seldom justifiable in the terminal stages of chronic uremia due to underlying irreversible renal disease. Nor should it be recommended when extreme hypertension is present, since heparinization of the patient may induce fatal cerebral hemorrhage.

The prime indications for hemodialysis are critical azotemia and rapidly progressive, fulminating potassium intoxication. Extreme metabolic acidosis reflects the failure of renal acid-base regulation and is another positive indication for dialysis. Application of an artificial kidney often is dramatically effective in acute potassium intoxication which otherwise may cause death in a few hours. Other indications for dialysis include prolonged coma from extreme barbiturate intoxication, overwhelming salicylism, and poisoning from bichloride of mercury.

There are definite contraindications to the use of the artificial kidney, notably: grossly active bleeding from fresh wounds; oozing of blood from the gastrointestinal tract or the uterus; subarachnoid or other intracranial hemorrhage. If uremia is secondary to acute pancreatitis, generalized peritonitis, overwhelming pneumonia, sepsis or septicemia, use of the artificial kidney is illogical since it can not eliminate the primary cause of uremia in such instances.

In the clinical management of acute renal insufficiency (lower nephron nephrosis) dialysis should never be considered a magic procedure which will insure clinical victory just before the last gun is fired; neither does dialysis *per se* induce diuresis; it merely tides the patient over and for a few days relieves the biochemical load on the badly damaged kidneys. Very careful clinical and laboratory supervision of the patient is required throughout the diuretic phase as well as during the phase of oliguria.[18] Nutritional, electrolyte and fluid balance problems often are extremely difficult in both phases. Overhydration of the patient with either whole blood or intravenous infusions of sodium chloride solution is insidious and may precipitate pulmonary edema. Washed, packed red cells have a high potassium content and by transfusion may contribute to potassium intoxication. This is especially pertinent because of the latent danger of hemolysis due to covert incompatibility. Fluid intake, by mouth or by vein, must be carefully calculated for each 24-hour period and adhered to rigidly, never exceeding the sum of "insensible water loss" (700 ml. to 750 ml.) plus the volume of the previous 24-hour urine, stool and vomitus. A daily intake of 100 gm. of dextrose in 1,000 ml. of water for injection, very slowly through an intravenous catheter, is usually adequate and will aid in the prevention of metabolic acidosis. By and large, blood transfusions during the critical phases of the syndrome are contraindicated and diuretic agents are mentioned only to be condemned.

In the six salvaged patients with lower nephron nephrosis following acute trauma, the syndrome of acute renal insufficiency was promptly recognized and conservatively treated before dialysis became necessary. Use of the artificial kidney was recommended for three patients because of advanced uremia with azotemia and for three others because of extreme potassium intoxication. Careful review of the histories in these six cases leads to conclusion that had the artificial kidney not been available and the procedure successfully carried out in competent hands, all six patients undoubtedly would have died. Such a statement, however, is not subject to proof because no patient can serve as his own control when life and death hang in the balance.

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ADDENDUM

Since this manuscript was prepared, an article appeared in the *Journal of Urology* (October 1954) by Keitzer, Ford, and Miller* entitled "Clinical

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*Keitzer, W. A., Ford, M. L., and Miller, E. W.: Clinical experience with Skeggs-Leonards artificial kidney, J. Urol., 72:629-638, Oct. 1954.

Experience with Skeggs-Leonards Artificial Kidney." The authors reported results in 25 cases. Of ten patients in acute uremia, seven died after dialysis. Fourteen other patients in chronic uremia had hemodialysis with only temporary benefit, and all of them eventually died of chronic renal disease. One additional patient who had nephrosis with convulsions from chronic glomerular nephritis made an amazing and inexplicable recovery.

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REFERENCES

1. Abel, J. L., Rowntree, L. G., and Turner, B. B.: On the removal of diffusible substances from the circulating blood of living animals by dialysis, J. Pharm. and Exp. Therap., 5:611-623, Oct. 1914.

2. Beecher, H. K., Simeone, F. A., Burnett, C. H., Shapiro, S. L., Sullivan, E. R., and Mallory, T. B.: The internal state of the severely wounded man on entry to the most forward hospital, Surgery, 22:672-712, Oct. 1947.

3. Burnett, C. H., Shapiro, S. L., Simeone, F. A., Beecher, H. K., Mallory, T. B., and Sullivan, E. R.: Renal function studies in the wounded, Surgery, 22:856-873, Nov. 1947; post-traumatic renal insufficiency, Surgery, 22:994-1028, Dec. 1947.

4. Bywaters, E. G. L., and Beall, D.: Crush injuries with impairment of renal function, Brit. M. J., 1:427, 1941.

5. Bywaters, E. G. L.: Ischemic muscle necroses. Crushing injury, traumatic edema, the crush syndrome, traumatic anuria, compression syndrome; a type of injury seen in air-raid casualties following burial beneath debris, J.A.M.A., 124:1103, 1944.

6. Doolan, P. D.: Acute renal insufficiency, U. S. Armed Forces M. J., 3:1751-1766, Dec. 1952.

7. Fishman, A. P., Kroop, I. G., and Leiter, H. E.: Experiences with Kolff artificial kidney, Am. J. M., 7:15-34, July 1949.

8. Goldbloom, R. B.: Renal failure with extreme hyperpotassemia: Its treatment with exchange transfusions, N.E.J.M., 250:717-721, April 29, 1954.

9. Kolff, W. J.: New Ways of Treating Uraemia: The Artificial Kidney, Peritoneal Lavage, Intestinal Lavage, J. & A. Churchill, Ltd., London, 1947.

10. Lucké, B.: Lower nephron nephrosis. The renal lesions of the crush syndrome, of burns, transfusions, and other conditions affecting the lower segments of the nephrons, Mil. Surg., 99:371-396, Nov. 1946.

11. Merrill, J. P.: The artificial kidney, N.E.J.M., 246:17, Jan. 3, 1952.

12. Merrill, J. P.: Present role of the artificial kidney in clinical therapy, Ann. Int. Med., 33:100-107, July 1950.

13. Merrill, J. P., Thorn, G. W., Walter, C. W.. Callahan, E. J., and Smith L. H., Jr.: Use of artificial kidney, technic, J. Clin. Invest., 29:412-424, April 1950.

14. Merrill, J. P., Levine, H. D., Summerville, W., and Smith, S.: Clinical recognition and treatment of acute potassium intoxication, Ann. Int. Med., 33:797-830, Oct. 1950.

15. Moore, C. A., and Dodson, C. C.: Reflex anuria. Report of a case, U. S. Armed Forces M. J., 5:549-551, April 1954.

16. Murray, C., Delormo, E., and Thomas, N.: Artificial kidney, J.A.M.A., 137:1596-1599, Aug. 28, 1948.

17. Schreiner, G. E.: The treatment of acute renal insufficiency, Medical Annals of the District of Columbia, 22: 531-535, Oct. 1953.

18. Shaw, C. C.: The clinical syndrome of acute renal insufficiency (the Sir Henry Wellcome Prize Essay for 1954), Military Medicine, 116:25-32, Jan. 1955.

19. Snapper, I.: On extra corporeal dialysis of blood in acute anuria, Bull. N. Y. Acad. Med., 28:621-629, Oct. 1952.

20. Swan, R. C., and Merrill, J. P.: The clinical course of acute renal failure, Medicine, 32:215-292, May 1953.

21. Teschan, P. E., and McDowell, M.: The artificial kidney, U. S. Armed Forces Med. J., 3:391-400, March 1952.

22. Van Slyke, D. D.: Renal tubular failure of shock and nephritis, Ann. Int. Med., 41:709-738, Oct. 1954.

23. Shaw, C. C.: The Artificial Kidney and Acute Renal Insufficiency, Medical Technicians Bulletin; Supplement to the U. S. Armed Forces Med. J. (accepted for publication), 1955.

Injuries to the Knee

Reconstruction of the Collateral Ligaments

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• *Review of a small group of cases in which the Mauck technique or a modification of it was used indicated that they were satisfactory solutions for many of the problems associated with reconstruction of the collateral ligaments of the knee. However, reconstruction of the collateral ligaments does not completely compensate for the lack of cruciate ligaments and a fully satisfactory repair is still being sought.*

THE KNEE JOINT is subject to many derangements. Injury to the ligaments is probably the most common. Since the pain and swelling that follow injury to a knee are often no greater with extensive tearing of the ligaments than with relatively minor injuries, the serious nature of the injury is frequently not recognized at once. It is only after the acute pain and swelling has subsided and the patient begins to use the joint normally that the instability becomes apparent. It is important, therefore, that in all cases of injury to the knee adequate early treatment, surgical or otherwise, be given in order to obviate the necessity for late reconstructive operation. This presentation is concerned with the late repair of relaxed ligaments of the knee, but before considering the surgical technique it is necessary to make an accurate diagnosis of the derangement present in each case. Since the stability of the knee joint depends on several other factors besides the integrity of the ligaments, it is important to differentiate instability due to muscle weakness, fracture or internal derangement from tearing of the major ligaments.

In taking the history, an accurate record of the initial and succeeding injuries to the knee is important. It is important to distinguish locking or catching from actual giving way or buckling of the knee. Dislocation or subluxation of the patella also must be differentiated.

In examination of a knee, it is well to follow a definite routine, consisting of inspection, palpation, testing of the range of motion, testing the integrity of the various ligaments and measurement of the thigh, knee and calf at corresponding levels on the two legs. In testing for stability it is important to compare the affected knee with the sound knee, for there is a wide range of normal variation between persons.

ROENTGENOGRAPHIC EXAMINATION

In many cases no abnormality of the ligaments will appear in a roentgenogram of the knee, but the presence of fractures, of bone deformity or of bone fragments may give a clue to injury to ligaments. Many times the ligament pulls off a small fragment of bone at the point of insertion. Hence, bony fragments may be seen at the femoral epicondyles, the head of the fibula, the intercondylar notch or the posterior lip of the tibia. Not all bone fragments mean a ligamentous tear. The tibial spines may be broken and be seen in the intercondylar notch, but this does not signify that the anterior cruciate ligament is ruptured.

Roentgenograms may be taken with knee under strain to show gaping of the joint, but films of this kind are difficult to take and the position is painful for the patient. Of greater aid is to test the knee for medial and lateral instability under fluoroscopic visualization, which gives a much better idea of the relative laxity of the collateral ligaments than can be obtained by clinical examination. Also, the integrity of the cruciated ligaments may be tested more accurately.

In general the diagnosis in an average case is not difficult. Sometimes, however, difficulty arises in deciding whether the disability of which the patient complains is due to a torn meniscus, to a relaxed ligament or to a dislocating patella, when one or several of these conditions are present.

In the final analysis the diagnosis of a damaged ligament or ligaments depends upon the actual demonstration of laxity of the suspected ligament. Many persons have demonstrable laxity in the knee due to damaged ligaments but are not disabled. In a given case, therefore, the knee may be lax but the symptoms may be due to other derangement of the joint. The most common lesion to be differentiated is a tear of a meniscus. It is important, therefore, in the recurring episodes usual in such cases, to distinguish the locking which is typical of meniscus lesions from the giving way of ligamentous lesions.

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Clinically, it may be possible to elicit clicking or grating, or even to feel a hypermobile meniscus. Loose bodies also give rise to recurring attacks of locking and differentiation depends upon roentgenographic observations. Recurring dislocation or subluxation of the patella may be very confusing. Where actual dislocation occurs the patient may say something like "the knee goes out of joint or dislocates." Where the patella momentarily dislocates the patient may not know what happens. However, if the patella can be dislocated or almost so by the physician when making an examination, the patient will often indicate that that is the sensation he gets. Not infrequently, more than one lesion is present in a given case and it is important to evaluate each in relation to the symptoms. It is common to have tears of the anterior cruciate and tibial collateral ligament, and also the medial meniscus. The posterior cruciate ligament and tibial collateral ligament are also associated. The fibular collateral and anterior cruciate ligament are usually damaged together.

INDICATIONS FOR OPERATION

As to the indications for operation, the first requisite is that the patient have symptoms of instability of the knee occurring during the course of ordinary activity. (The author would not consider reconstructive operation on a football player with the sole objective of returning him to an active career in football.) Second, the knee should be completely recovered from previous injuries or operations. That is, the maximum expected range of motion and return of muscle power should have occurred before further operation is carried out. Third, operation should be limited to young persons without degenerative changes in the articular cartilage, since it takes a much longer time for return of muscle power and motion in older individuals.

The objective of operation should be to obtain freedom from pain, stability adequate for ordinary activities and a full range of motion. This may seem obvious, but various operative techniques used in the past have achieved stability but with limitation of motion or with pain or both.

TECHNIQUES

Many surgical techniques have been devised for restoring the stability of a knee. In 1917, Groves[5] presented a method for the repair of the anterior cruciate ligament. He used one of the tendons of the inner hamstring muscles passed through drill holes properly placed to reconstruct the damaged ligaments. Edwards[2] in 1921 presented a method for the repair of the fibular collateral ligament by means of a flap of fascia lata turned down and another flap from the biceps tendon turned up to reinforce the damaged ligament. Since then, many variations based upon the same principles have been used. These methods are based upon the theory that the affected ligaments are weak, and the transplants are designed to strengthen them. One objection to the methods is that it is very difficult to pull fascia or tendons through drill holes to obtain and retain the degree of tightness necessary to stabilize the knee joint. Others are that absorption of bone about the drill holes occurs and permits the ligament to slacken, that sutures stretch a little before healing is complete, that the fascia slips and, finally, that since fascia grafts or free tendons are avascular structures, they are prone to stretch during the process of revascularization.

Replacement of cruciate ligaments by the Groves technique has generally been disappointing. The author has not done the operation but has noted in cases in which the operation was carried out by others that a prolonged period of disability is characteristic and often there is finally a limited range of motion. The reduction in the positive drawer sign in those cases was not striking. It would seem logical to question whether a piece of avascular fascia or tendon, which is devoid of synovial covering, will ever survive within the knee joint. There is also the possibility that it acts as a foreign material in the joint to produce irritation. Finally, it is owing to a complex arrangement of fibers of the cruciate ligaments that they can be tight in many phases of flexion and extension; and it is impossible to duplicate this arrangement by present techniques.

By 1936, it was generally accepted by orthopedic surgeons that repair of the cruciate ligaments was unsatisfactory and not necessary. In that year Mauck[5] reported the operation which bears his name. He did not repair the torn cruciate ligament but, believing that the main cause of instability in a knee is a relaxed collateral ligament rather than a weak one, he transplanted the tibial insertion of the tibial collateral ligament distally, thus restoring tension to the ligament. The author has used this operation and the results in general have been satisfactory.

In July of 1950 the author modified the Mauck operation by transplanting the femoral insertion upward instead of the tibial insertion downward, which simplified the operative technique and made the operation adaptable to both the tibial and fibular collateral ligaments.

In more recent years there has been a renewed search for other methods to stabilize damaged knees. Smillie[7] used the medial meniscus to replace a torn anterior cruciate ligament. This technique needs further trial for proper evaluation.

Thus far only the static phase of stabilization of

TABLE 1.—*Data on nine cases of surgical repair of ligaments of the knee*

Case	Date	Age and Sex	Cause of Injury	Ligament Injured: Anterior Cruciate	Ligament Injured: Tibial Collateral	Ligament Injured: Fibular Collateral	Meniscus	Repair Type	Follow-up Time	Results: Motion	Results: Degree of Instability*: Anteroposterior	Results: Degree of Instability*: Lateral
1.	6- 2-42	19 M	Football	+	+			Mauck	5 years	Normal	1	1
2.	7-30-43	16 M	Football	+	+		+	Mauck	5 years	Normal	1	0
3.	6- 7-45	32 F	Fall		+			Mauck	6 months	Normal	1	0
4.	4-22-46	20 F	Sport		+		+	Mauck	17 months	40° to 175°	1	1
5.	7-27-46	22 M	Football	+		+		Plastic	4 years	Normal	2	3
6.	8- 5-46	20 M	Football	+	+		+	Mauck	7 months	Normal	2	0
7.	1-11-49	20 F	Football	+	+	+	+	Mauck	15 months	Normal	3	2-3
8.	2-19-49	23 F	Auto accident	+		+	+	Black	4 years	90° to 180°	1	1
9.	7-16-50	30 F	Riding horse	+		+	+ +†	Black	3 years	Normal	1-2	1

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*Degree of instability is in a range of 1 for least to 4 for greatest.

†Both menisci torn.

the ligaments of the knee has been considered. Recently more attention has been given to the dynamic factors affecting the stability of the knee. Hauser,[3] Helfet[4] and Smillie [7] have transplanted the patellar tendon to a more medial position on the tibia. The added external rotary force tends to stabilize the knee. Augustine[1] reported a technique for replacement of the posterior cruciate ligament in which a strip of the patellar tendon still attached to the patella proximally is passed through a drill hole in the superior surface of the tibia and out below the tibial tubercle. Contraction of the quadriceps then pulls the tibia forward in relation to the femur, thus preventing the backward displacement which is characteristic of posterior cruciate lesions. Augustine also described use of the semitendinosus detached distally, pulled upward and then passed downward through the intercondylar notch and into a drill hole in the tibia in such a way as to have a dynamic action replacing a torn anterior cruciate ligament. The author has had no experience with the foregoing methods. Certainly a satisfactory method of reconstruction for the cruciate ligaments is needed, and these methods seem to be an interesting approach to the problem.

The question of dynamic versus static ligaments is open to debate. Believing that the function of the ligaments is to provide stability to the knee in phases of flexion and extension when the muscles are inactive, the author finds it difficult to see how these transplanted tendons can supply the required stability to the joint. It is to be hoped that further clinical trial will supply the answers.

POSTOPERATIVE CARE

After operation a long leg cast should be worn for six weeks, which is the minimum time for healing of the reconstructed ligaments. It is to be expected that after this period of immobilization there will be considerable stiffness of the joint and atrophy of muscles. At the end of six weeks either a jointed cast or a long leg jointed knee brace is worn and active exercises are begun. This support is worn until muscle power is adequate to protect the knee during ordinary activities. Heat and resistance exercises are continued until muscle power has returned to normal.

Data on injuries, the kind of repair and the results in nine cases are given in Table 1.

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REFERENCES

1. Augustine, R. W., Lt.-Col., USAF: Personal communication.

2. Edwards, A. H.: An operative procedure for repair of the collateral ligaments of the knee, Brit. J. Surg., 8:266, Jan. 1921.

3. Hauser, E. D. W.: Extra-articular repair for ruptured collateral and cruciate ligaments, Surg. Gyn. and Obs., 84: 339-345, March 1947.

4. Helfet, A. J.: Function of the cruciate ligaments, Lancet, 1:665-667, May 1, 1948.

5. Hey-Groves, E. W.: Operation for the repair of the cruciate ligaments, Lancet, 2:674-675, Nov. 3, 1917.

6. Mauck, H. P.: A new operative procedure for instability of the knee, J. Bone and Joint Surg., 18:984-990, Oct. 1936.

7. Smillie, I. S.: Injuries of the Knee Joint, The Williams and Wilkins Co., pp. 200-207, 1951.

Decidual Reaction of the Cervix

A Review of 27 Cases

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• *Decidual reaction of the cervix is a benign growth produced by the hormones of pregnancy. These reactions or changes in the cervix are present in about 20 per cent of normal pregnant women. They may look like cancer but are not cancer. They are benign lesions. Bleeding is a common symptom and may occur at any stage of pregnancy. The presence of decidual reaction does not predispose to spontaneous miscarriage. In most cases no treatment is required; in a few light cauterization may be needed to control bleeding. Any suspicious lesion should be biopsied to rule out malignancy. By microscopic examination any experienced pathologist can differentiate a decidual reaction from cancer. The consensus of opinion is to let the pregnant woman deliver, normally, with this benign lesion, for it disappears after the baby is born. If cancer is found during pregnancy, it should be actively treated.*

DECIDUAL REACTION of the cervix is reported to occur in approximately 20 per cent of cases in which biopsy specimens are taken from that area during pregnancy, but the true incidence of this condition is undoubtedly much higher.[1, 3, 6] Clinically the lesions may resemble carcinoma of the cervix. Although differentiation is not difficult for experienced observers, in some cases reported in recent years the initial microscopic diagnosis was anaplastic carcinoma of the cervix; later the diagnosis was corrected to extensive decidual reaction.[5] (Figure 1).

The chief symptoms are "spotting" and bleeding. The latter may be spontaneous or may follow intercourse, douching or pelvic examinations and in the first trimester it must be differentiated from the bleeding of threatened abortion or of extrauterine pregnancy. If there is bleeding in the last trimester of pregnancy, placenta previa and abruptio placenta must be considered in differential diagnosis.

The cause of decidual reaction of the cervix is unknown. However, the condition probably arises because certain stromal cells of mesenchymal origin respond to the hormones liberated during pregnancy.[1, 6, 7] The appearance of this ectopic decidua outside the uterine cavity could not be explained in any of the cases in the series herein reported as resulting from endometriosis or adenomyosis present at the site of the lesion. Some investigators have expressed belief that inflammatory lesions, erosions and polyps may predispose to the lesion.[4, 6] As a rule, there is a sharp line of demarcation where the columnar mucous epithelium of the cervical canal meets the stratified squamous epithelium of the portiovaginalis. If there is erosion of the cervix, the columnar epithelium extends down and may account for the extension of the decidua vera to the portio. This condition could not account for the isolated lesions that sometimes occur on the cervix and the upper vagina.

The gross lesion may appear, clinically, in various forms:

1. As an endocervical polyp with a pedicle or as a sessile polyp.
2. As a circular, rim-like tumor elevation partially or entirely around the os at the columnar squamous junction.

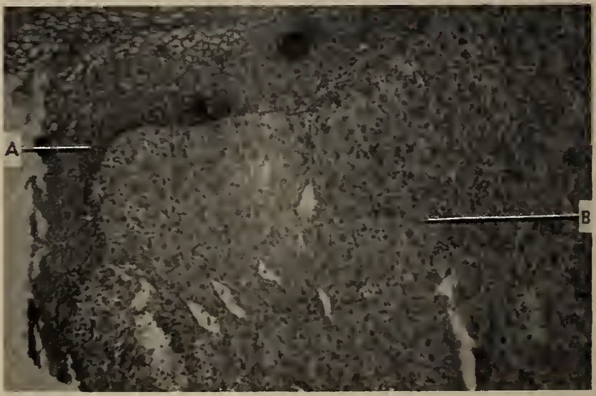

Figure 1.—Section from decidua of cervix of a woman three months pregnant. Diagnosed as squamous cell carcinoma. (A) Normal squamous epithelium, (B) decidual cells.

From the Obstetrical and Pathological Service of Mercy Hospital, San Diego.

Presented before the Section on Obstetrics and Gynecology at the 83rd Annual Session of the California Medical Association, Los Angeles, May 9-13, 1954.

3. As a granular proliferative papillary or fungating mass on one or both lips around the external os.

4. As a pearly, shiny, gray to yellow tumor on the cervical or vaginal mucosa. There may be several distinct tumors or just one.

5. As a simple hypertrophic erosion undistinguishable from the common erosion that occurs in pregnancy, except that it bleeds more easily on palpation.

The histogenesis is fairly definite. The decidua cells in biopsy material from the cervix are of mesenchymal origin and by serial biopsies can be traced from the fibroblastic stroma cells. Postpartum, these same cells revert back to stroma cells, usually within two weeks.

The principal changes noted in microscopic observation occur in the fibrocytes between the smooth muscle fibers of the cervical stroma. The usually compact elongated cells change to solid sheets of enlarging polygonal cells. The enlarged cells coalesce and occasionally form microcysts. These enlarged cells have larger than normal amounts of cytoplasm, which is foamy and vacuolated. The cell masses are more compact near the surface; in the deeper areas, they are elongated and often surrounded by the fluid of edema. Quantitatively, the reaction may vary greatly; many cells or only a few may show the changes. Scattered throughout the masses of decidual cells are numerous blood vessels distended with erythrocytes. These blood vessels (capillaries and arterioles) are also altered in decidual reaction. The vessels may be rounded or slit-like, but the layer of lining endothelial cells is usually the only clearly recognized vascular structure. The connective tissue cells of the vessel walls show the same changes as the stromal cells and in fact blend indistinguishably with them.

An inflammatory reaction, often quite intense, is usually present in most of the decidual areas but to a greater extent in the submucosal region (Figure 2). The predominating cell is the polymorphonuclear leukocyte, although often many mononuclears are present. This reaction is not of the granulomatous type but is almost always associated with ulceration of the cervical mucosa. At times the vascular congestion is so pronounced that actual sinusoids are not rare, and there seems to be an extravasation of erythrocytes into the stroma. The endocervical

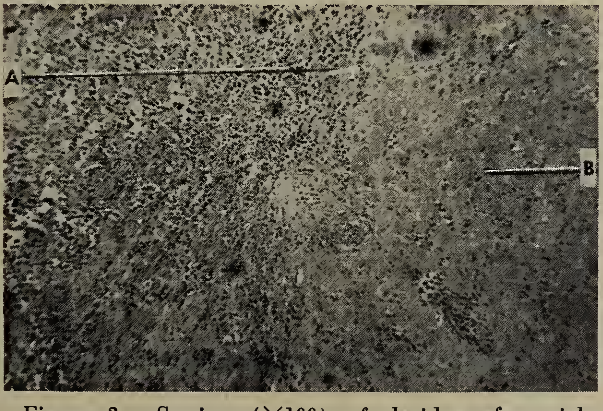

Figure 2.—Section (×100) of decidua after eight months of pregnancy: (A) inflammatory reaction, (B) mature decidual cells.

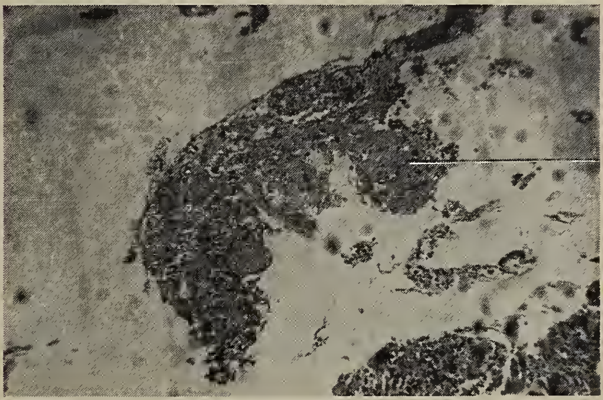

Figure 3.—Specimen of decidua of cervix nine days postpartum (×100). The line at right points to several small areas of decidual reaction.

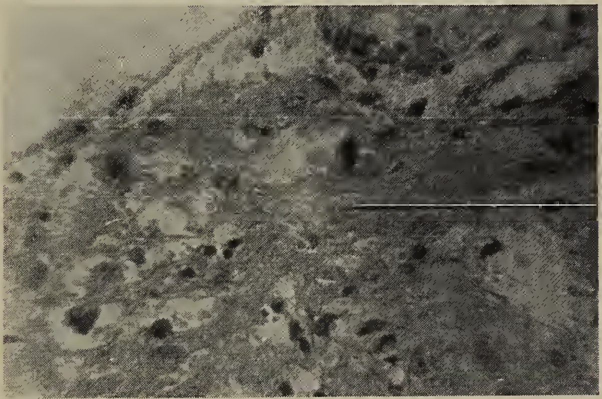

Figure 4. — Specimen taken nine days postpartum (×430). The line points to regressing decidual reaction.

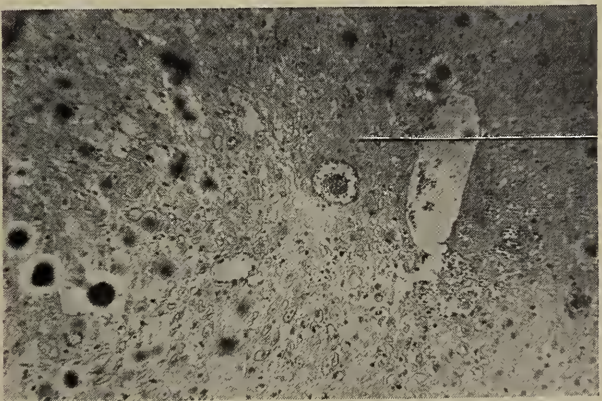

Figure 5.—Specimen removed eleven days postpartum (×100). The line points to regressing decidual cells of fibroblastic type.

glands are prominent, and the cells show active secretion of mucus. There does not appear to be any correlation between the degree of inflammation and the extent of the decidual reaction. The inflammation does not appear to be a prerequisite, as decidual reaction occurs in tissue where there is no sign of inflammation (oviduct, ovary, peritoneum, appendix, broad ligament and hernia sacs).

In a series of 27 pregnant patients with decidual reaction of the cervix who were observed by the authors, 19 had associated erosion or endocervicitis. Eight of the patients had a clean cervix except for isolated decidual lesions. Only one patient had proved endometriosis. In one patient the cervix was hypertrophic with extensive multiple tumor elevations (deciduomas) on the cervical mucosa and the vaginal vault, distinct from the cervical erosion present.

The largest mass observed at term was a yellow elevated body about 1 cm. in thickness on the anterior cervical lip. Specimens for biopsy were taken from the mass during the prenatal period, at term and in the postpartum period. In histopathologic examination of a specimen removed on the ninth postpartum day decidual reaction was observed still to be present.

The earliest that specimens were taken for biopsy in the present series was at five to six weeks from the last menstrual period. In all cases the lesions had disappeared by the sixth week postpartum. Three of the patients in the series had spontaneous abortion, in one abortion was induced and in one rupture of ectopic pregnancy occurred. Delivery was premature in three cases; in two of the three it was spontaneous and in the other was due to abruptio placenta.

The regression of decidual cells to the original fibroblastic cells, the authors believe, takes place between the tenth and sixteenth day postpartum. Biopsy specimens taken on the ninth, eleventh, and the seventeenth postpartum days in the present series tended to support this belief (Figures 3, 4, 5).

Decidual reactions should be treated conservatively. Endocervical polyps are treated in the usual manner by twisting them off with a clamp and, if necessary, applying light cautery to the base. Often a Gelfoam plug will control bleeding. Bleeding that may occur incident to removal of tissue for biopsy may be treated in the same way.

Papanicolaou examination of material swabbed or scraped by wooden spatula from the lesions does not aid in diagnosing decidual reactions except in that they are negative for malignant disease.

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REFERENCES

1. Bausch, R. G., Kaump, D. H., and Allen, R. W.: Decidual reaction of cervix during pregnancy, Am. J. Obst. and Gyn., 58:777-783, Oct. 1949.

2. Bowles, H. E., and Tilden, L. L.: Decidual reactions of the cervix, W. J. Surg. Obst. and Gyn., 59:168-170, April 1951.

3. Fluhmann, C. F.: A clinical and histopathologic study of lesions of the cervix uteri during pregnancy, Am. J. Obst. and Gyn., 54:124-126, July 1947.

4. Haas, R. L.: Significance of decidual polyps in otherwise normal pregnancy, Am. J. Obst. and Gyn., 54:124-126, July 1947.

5. Lapan, B.: Deciduosis of cervix and vagina simulating carcinoma, Am. J. Obst. and Gyn., 53:743-747, Oct. 1949.

6. Murphy, E., and Herbert, P.: Uterine cervix during pregnancy, Am. J. Obst. and Gyn., 59:2, 384, 1950.

7. Novak, B.: Gynecologic and Obstetric Pathology, 2nd ed., p. 63, 145. Philadelphia, 1947.

Laboratory Technicians

The Clinical Laboratory Law and Its Meaning to Private Physicians

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• *The present laws and regulations relating to clinical laboratories in California are the outcome of over a quarter century of cooperative development.*

The medical profession, public health department, laboratory workers, and the legislature have worked together in this development.

At first the system of certifying technicians and laboratories was on a voluntary basis. The clinical laboratory law in effect legalized and made generally applicable a system which had already been accepted voluntarily.

The application of the clinical laboratory law provides physicians a reasonable assurance that competence and reliability will prevail in clinical laboratory operation.

Of great importance is the conduct of proper training programs by approved laboratories.

Since modern medical practice is so dependent on accurate clinical laboratory work it is essential that special effort be directed by physicians toward influencing young people to enter the profession of medical technology.

THERE WAS A TIME when medical practice depended almost entirely on the power of observation and on the application of personal experience in the diagnosis and treatment of disease. Regardless of the diagnostic acumen of the physician, however, the diagnosis often was missed because of inadequate information. As time went on, many other factors were added to those fundamental facilities. The physician, instead of relying upon his own skills alone, drew assistance from the specialized abilities of others.

In the course of this development, the volume of knowledge relative to disease processes and how to measure them expanded beyond the belief of earlier generations. It became necessary to understand the processes of deranged anatomy and deranged physiology, and also the life cycles and metabolic processes of parasitic agents. The methods for determining these derangements require complex procedures through use of precise methods.

In this way the private physician came to need more than his own personal skill. He needed data from scientific measurements done by others than himself. He became the coordinator of a vast amount of scientific information in relation to his patients. As a corollary to this, he had to be assured that those who made the determinations were competent and that they used reliable instruments and methods.

Assistance to him in this assurance constitutes one of the functions of public health practice. As laboratory science has become more complex, the medical profession has, from time to time, recommended regulations designed to insure accuracy. These have received legal status through legislative action. The administration of these regulations has been carried on as part of the program of public health departments.

In California, the Clinical Laboratory Law as it exists today is the outcome of over a quarter century of cooperative development among components of medicine, including public health, and the legislature. As long ago as 1923, the State Board of Health authorized the director of the State Hygienic Laboratory to inaugurate a system of inspection and certification of diagnostic laboratories, both public and private.[3] At first the system of examining and certifying clinical and public health technicians was conducted on an entirely voluntary basis. This system of voluntary acceptance of approval extended also to laboratories. By the time the first law was proposed, this voluntary system had become generally accepted by laboratory directors and technicians throughout the state. The law, in effect, legalized and made generally applicable a system of examination and certification which had already been operating on a voluntary basis for 15 years. The Clinical Laboratory Law which was made effective in 1938 was a cooperative venture in which all interested organizations participated. The law was revised in 1951 in keeping with advancements of knowledge and experience in clinical laboratory operation.

Since 1941, there have been two committees serving in an advisory manner to the State Department of Public Health in the administration of the law. These committees are composed of five members, each with representatives from the universities, pathologists, technologists and technicians.[7]

Presented before the Section on Public Health at the 83rd Annual Session of the California Medical Association, Los Angeles, May 9-13, 1954.

TABLE 1.—*Chronology of activities in licensing of clinical laboratories and clinical laboratory personnel*

Date	Clinical Laboratory	Clinical Laboratory Personnel
Before 1925	No supervision	No supervision
1925-1937	Voluntary approval of clinical laboratories	Voluntary certificates in individual subjects for technicians
1937—Clinical laboratory law passed		Licenses for technicians and technologists required
1938—State Board of Public Health regulations adopted		Licensing initiated with blanketing in of laboratory workers
1941	Voluntary approval of clinical laboratories abandoned	
1942		Discontinued issuance of certificates in individual subjects
1947—State Board of Public Health regulations amended		Licensing in individual subjects; requiring graduate degree; reestablished
Laws and regulations amended 1951, effective January. 1952	Laboratory permits required	Registration of clinical laboratory trainees required

TABLE 2.—*California licenses issued for clinical laboratory technicians and technologists by year, 1938-1953*

Year	Technician	Technologist
1938	2	178
1939	326	32
1940	76	10
1941	228	62
1942	212	7
1943	182	4
1944	154	11
1945	183	8
1946	365	12
1947	547	26
1948	335	14
1949	178	3
1950	393	7
1951	418	9
1952	657	9
1953	526	13
Total	4,782	405

The law, as at present constituted, defines a clinical laboratory as follows: "Clinical laboratory means any place, establishment, or institution organized and operated for the practical application of one or more of the fundamental sciences by the use of specialized apparatus, equipment, and methods for the purpose of obtaining scientific data which may be used as an aid to ascertain the presence, progress, and source of disease in human beings."[4]

There are certain exemptions provided in this law, one of which recognizes the relationship between a physician and his patients in his private practice. Thus, the law does not apply to a clinical laboratory operated by "an individual licentiate of the healing arts for laboratory work performed on his own patients and within the scope of his license privileges." This does not permit, however, the laboratory to receive direct or indirect referred work from any other source. Other exemptions include laboratories operated by the state or federal government. Those permitted to perform tests in clinical laboratories are physicians, technologists, technicians, and trainees. Only a physician or a technologist may direct a laboratory.

Any of the above groups may do all procedures involved in laboratory operation. This includes skin puncture, or venipuncture for collection of specimens, and the performance of tests. It does not, however, include spinal puncture, except, of course, by a physician.[2] The activity of trainees is modified by the provision that their work be done under direct supervision of a licensed person, and there may be no more than one trainee per licensed person, and no more than two in any laboratory except where a training school has been approved.

Laboratories are operated under permits issued by the State Board of Health on recommendation by the Department of Public Health, after inspection of their operation and equipment. Licenses and permits are renewed annually.

Table 1 lists chronologically the various phases in the development of the present clinical laboratory act.

Since clinical laboratory practice demands accuracy and precision of its operators, it is important to know what kind of persons are doing the work, and something about their training and their numbers.

Table 2 lists the number of licenses issued to technicians and technologists each year since 1937.[8] In general, the number of technician licenses issued has steadily increased each year since the post-war years of 1946 and 1947. There is noted a sharp peak in numbers immediately following the war which indicates the return of service men to civilian life.

The terms technician and technologist should be defined at this point, since not everyone is familiar with the nomenclature as it is applied in California.

The California Business and Professions' Code describes a clinical laboratory technician in Sections 1261 and 1262.[4] For the sake of brevity, only certain items in that description will be dealt with here.

In general, it may be said that five years are required after high school graduation before an individual is qualified to take the examination for licensure.

These five years may be spent in several ways. The recommended procedure involves four years of college with a degree of bachelor of arts or bachelor of science and a major in bacteriology, biochemistry, medical laboratory technique or essentially equivalent subjects. This academic experience is then followed by actual clinical laboratory work in an approved laboratory as a trainee for a period of up to one year.

The length of time in traineeship depends on the content of the curriculum of the college from which the degree was received.

If the person completes only three years of college, including certain required subjects, then two years of traineeship is required.

If only two years of college is completed, with the required subjects, then three years of traineeship must be fulfilled. It is now possible to receive this minimum two years of required college instruction in most of the 75 junior colleges of the state.

In the past, high school graduates with five years of approved traineeship were qualified to take the examination. However, the present law has raised educational standards to a minimum of two years of college. This will be mandatory on and after January 1, 1957.

Now to consider the definition of clinical laboratory technologist. It must be remembered that this definition is based on the California statute (Sec. 1260).[4] Again, reference will be made only to the high points in this legal definition.

Nine years following high school graduation is the minimum time requirement to qualify for the technologist examination. These nine years must include four years of resident instruction leading to a degree in an approved college or university. The courses shall contain certain minimum numbers of hours in pertinent subjects. There must also be five years of practical experience in an approved clinical laboratory, at least one year of which shall immediately precede admission to the examination. This examination includes written, practical and oral portions.

There are two exceptions which may be invoked in the application of the five years of experience. A master's degree in fundamental medical sciences may be substituted for one year of experience. A doctor of philosophy degree, on the same basis, may be substituted for two additional years.

It will be noted that technologists have considerable preparation before admission to the examination. This is considered essential, since technologists are the only persons, aside from physicians, who may operate and direct clinical laboratories. It has been recognized that laboratory direction by physicians, preferably specialists in pathology, is the desirable situation. However, this is impossible at present, for there are not enough pathologists or other physicians interested in laboratory medicine to cover the various communities needing clinical laboratory service. The technologist, therefore, fulfills an important function in assisting practicing physicians in this essential field of medicine.

TABLE 3.—*Clinical laboratory technician and technologist licenses (California) by sex*

License	Issued 1938-1953			Active in 1953		
		Per Cent			Per Cent	
	Total	Male	Female	Total	Male	Female
Technician	4,782	27.6	72.4	4,003	28.1	71.9
Technologist	405	46.4	53.6	339	45.4	54.6

TABLE 4.—*Certificates of proficiency granted and limited licenses issued at time law became effective (California)*

License or Certificate	Issued			Active in 1953		
		Per Cent			Per Cent	
	Total	Male	Female	Total	Male	Female
Limited licenses	395	19.7	80.3	157	19.1	80.9
Certificates of proficiency	2,451	20.9	79.1	109	16.5	83.5

Note: Certificates of proficiency granted 1928-1942.

Sixty-seven and one-tenth per cent of all persons now licensed as technicians are college graduates, and 89.5 per cent have had at least some college education.

The amount of formal education is related to the ability to pass this examination: 91.3 per cent of those with college degrees pass; of those with some college training, but without a degree, only 72.9 per cent pass; of those with only high school training, 53.3 per cent pass.

Of the 4,255 persons who have taken the technician's examination during the past eight years, 2,481 or 58.3 per cent had college degrees.

Most clinical laboratory technicians are women, but the proportion has decreased slightly in recent years. Table 3 shows the relative numbers of men and women holding licenses as technicians and technologists. Seventy-two and four-tenths per cent of the technicians but only 53.6 per cent of the technologists are women.

Before the passage of the law in 1938, and for a limited period afterward, certificates of proficiency were issued in individual subjects. At the time the law went into effect, certain candidates were issued licenses in limited fields as part of the blanketing-in procedure. Data concerning these certificates and limited licenses are shown in Table 4. It will be noted that a majority of these certificates and licenses are no longer active, principally due to the fact that the persons to whom they were issued have obtained full licensure.

Besides clinical laboratory technicians and technologists, there remains another very important group to describe—clinical laboratory technician trainees. It is upon this group that the laboratory depends for continuity of operation and for expan-

TABLE 5.—*Laboratories with permits, laboratories approved for training, and approved laboratory training schools, with number of trainees in each category (California, 1953)*

		—Type of Laboratory—			
		Hospital		Other	
	Total	No.	Pct.	No.	Pct.
Laboratories with permits	843	315	37.4	528	62.6
Laboratories approved for training:					
Total laboratories approved	346	167	48.3	179	51.7
Total trainees as of Dec. 1953	392	263	67.1	129	32.9
Clinical laboratory—limit 2 trainees:					
Laboratories approved	321	144	44.9	177	55.1
Trainees as of Dec. 1953	260	144	55.4	116	44.6
Laboratory training school—one or more trainees:					
Laboratories approved	25	23	92.0	2	8.0
Trainees as of Dec. 1953	132	119	90.2	13	9.8

sion. It is for this class of worker that laboratory directors must take the initiative in providing training facilities. Time required in training varies as already described, depending on prior scholastic achievement.

Trainees are expected to work as technicians in every way, except that they are continuously under supervision, and are never on duty alone. Furthermore, no one may make a career of being a trainee; two years is the maximum time allowable, after meeting minimum qualifications, before a license must be obtained. It should be pointed out that trainees are paid for their work, usually an increasing amount, as they advance in experience.

Regulations contained in the California Administrative Code are precise in their description of the kind of training and experience to be provided for technician trainees.[1]

Laboratory directors may not accept trainees until the laboratories have been evaluated and approved for training by the State Department of Public Health. This evaluation includes equipment, personnel of the laboratories and scope of activities.

There are two kinds of training programs recognized. One is designed for the smaller laboratories, and under it not more than two trainees may be included, and not more than one if there is only one licensed person in the laboratory. The other kind of training program is for laboratories classified as training schools. In these schools, as many trainees may be registered as there are licensed personnel on duty. The schools must follow minimum schedules of experience and instruction and must have adequate equipment and volume and diversity of work.

Because the matter of training is of such great importance to the future supply of technical workers, the status of these programs will be discussed more extensively here.

TABLE 6.—*Colleges and universities with curricula directed toward medical technology (California, 1953)*

College or University	Number Enrolled	Enrollment Capacity (Estimated)
State universities (U.C., U.C.L.A., Med. School, San Francisco)	239	370
State Colleges (7)	253	350
Private colleges and universities (6)	136	237
Total	628	957

Only 346 of the 843 approved clinical laboratories are conducting training programs (Table 5), and even they are not operating to the full capacity of their training potential. Therefore, in terms of numbers of laboratories participating in training, only about 41 per cent of the training potential is being used. Furthermore, in the 346 laboratories approved for training at the end of 1953, there were only 392 trainees listed in reports to the department. Since, in general, each laboratory may be approved for two trainees, the training in even these laboratories falls short of full capacity.

The principal source of trainees is the colleges and universities of the state. Table 6 shows the kinds of schools and colleges within the state that maintain curricula for medical technology. Also shown is the approximate enrollment in these colleges as compared with their capacity. While enrollment capacity is estimated at 957, only 628 students are actually enrolled. Thus, it is seen that both the educational institutions and the clinical laboratories are operating considerably below their capacity for training future technicians and technologists.

After this consideration of educational and training programs, the question follows as to whether or not these programs are producing sufficient personnel to meet the needs of our clinical laboratories.

Only 779 out of 4,782 persons have failed to maintain their licenses in an active state during the past 16 years. This represents a total loss of about 16 per cent. However, not all the licensed individuals are active as technicians. Many of them, for various reasons, are not actually engaged in laboratory work; but they represent a potential which is available in case of necessity.

It has already been noted that approximately 500 new licenses have been issued each year in recent years. Yet the technician shortage still appears to be acute. It thus seems evident that at least 500 to 600 new licentiates must be added each year to fulfill California's needs. To accomplish this, more students will have to be enrolled in courses of medical technology in educational institutions, and more facilities for trainees will have to be activated in the clinical laboratories.

Because of the difficulty in maintaining an adequate supply of qualified technicians, proposals are occasionally received for establishing classes of technicians at lower levels of training. It is stated that these workers with less training could perform so-called simple laboratory procedures such as urinalysis and the common blood determinations. In consideration of these proposals, it should be stated that no laboratory procedures are looked upon as "simple." There is too much involved to allow performance of these tests to deteriorate to the mere pouring together of specimens and reagents, and empirically noting results.

In this connection, it has been noted that a few private schools have set up curricula designed to prepare individuals, often with limited background, for jobs as office assistants to professional people. These courses include some bookkeeping instruction, some simple nursing procedures, public relations principles, as well as a few of the more common laboratory tests. The state Attorney General has ruled that insofar as the teaching of laboratory technique is concerned, these schools are operating illegally.[2] Only where the laboratory technology training is given to prepare students for ultimate licensure is that training within the law. This ruling is further evidence of the importance of adequate training and experience in preparation for a career in medical technology.

What might be termed "a scientific conscience" is essential to successful performance in the laboratory, and this can only be developed through high level teaching and experience. The technician must have a deep appreciation of the importance of accuracy, and of the importance of the tests to the physician, as well as a pride in his role as a professional member of the medical team.

It has been stated already that individual physicians in their practice are exempt from the provisions of the clinical laboratory law so long as their laboratories perform tests for their own patients only. In spite of this exemption, there is an increasing use by private physicians of licensed technicians. As more such technicians become available, this practice will no doubt become more general. Unless a physician has the time to perform his own laboratory tests, good practice dictates that he have a licensed technician for this work.

As a corollary to this, it should be stated that private physicians may undertake premarital[5] and prenatal[6] serologic tests in their own offices on their own patients only when their laboratories are approved for this purpose by the State Department of Public Health, and this approval stipulates that all technicians performing such tests must be licensed.[1]

It is clearly established that modern physicians are dependent on clinical laboratory techniques for accurate diagnosis and for maintaining successful treatment. Therefore, success in medical practice demands that clinical laboratory work be done by well qualified technicians.[9]

To fill the need for qualified persons, it is necessary that many more of the young people of today be guided toward the profession of medical technology. Competition from other sources is keen. The training period is long, and the remuneration of these workers is small in the early stages of their careers. These factors are definitely a handicap to recruitment. Thus, it becomes a major responsibility of all private physicians to make the period of traineeship after academic training as attractive as possible. Salaries must be on a competitive level with other fields. Personal interest by private physicians will develop in technicians and trainees pride in their work, and personal satisfaction in being related to medical practice.

Unless aggressive promotion in this field is exerted by private physicians, it will be increasingly difficult to provide medical practitioners with the assistance available through scientific laboratory methods.

Some physicians are already taking time off from their practices to give lectures and instruction to students in state colleges. It is this sort of individual effort which stimulates young people to continue their studies in this field, and also to draw new recruits into the profession. Other physicians in the course of their daily rounds may drop in to the laboratory and indulge in spirited discussions with the technicians and trainees. It is through this kind of relationship that physicians may hope to compete with other private industry in influencing competent young people to enter the field of medical technology.

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REFERENCES

1. Calif. Adm. Code (Title 17, Ch. 2, Subch. 1, Group 4, Art. 1) 1946.

2. California Attorney General's Opinions Nos. 53/245 and 51/165.

3. Kellogg, W. H.: Certification of laboratories, Calif. & Western Med., 30:3, March 1939.

4. Laws and Regulations Relating to Clinical Laboratories 1951, Calif. Business and Professions Code, Div. 2, Ch. 3, Secs. 1200-1322, inc.; Calif. Administrative Code (Title 17), (Chap. 2, Subch. 1, Group 2) 1952.

5. Laws Relating to Prenatal Syphilis Tests, Calif. Health and Safety Code, Part 2, Stats. of 1947, Chapter 705.

6. Laws Relating to Premarital Examinations, Calif. Civil Code, 1943, Art. 2a, Chap. 1, Title 1, Pt. 3, Div. 1.

7. Merrill, M. H.: Eight years of experience in licensing clinical laboratory technicians, Journal A.P.H.A., Vol. 35, No. 10, Oct. 1946.

8. Minutes of the California State Board of Health 1923-1953.

9. Montgomery, L. G.: Medical technology and its relation to physiology and pathology, J.A.M.A., Vol. 154, No. 1, Jan. 1954.

The Epidemiology of Poliomyelitis

A Study of An Outbreak in Payson, Utah, 1951

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• *In an unusually intense and severe outbreak of poliomyelitis, close personal contact, either directly or through intermediaries, with persons with poliomyelitis appeared to be the only significant factor common to the majority of the cases studied.*

ALTHOUGH MUCH EVIDENCE has appeared in the earlier literature[3, 9, 10, 14] regarding the spread of poliomyelitis by direct person-to-person contact, based on "shoe leather" epidemiology, relatively little has appeared in recent years.[1, 2] More attention has been paid to the route of infection — as to whether it is gastrointestinal or respiratory. Attempts to implicate or establish common sources such as sewage, water, milk and flies have tended to predominate in the epidemiological literature of the past 15 years. As an unusual opportunity occurred recently to study, in detail, an outbreak of poliomyelitis of extreme severity and intensity in a relatively small community, it was felt desirable to record the data that could be obtained by "shoe leather" methods concerning this outbreak.

The present report concerns a portion of an epidemiological survey made in conjunction with the evaluation of gamma globulin in the prophylaxis of poliomyelitis[4, 5, 6, 7] carried out under the direction of Dr. W. McD. Hammon in Utah County, Utah, in 1951. Gamma globulin, however, probably did not affect the course of this outbreak since it had practically terminated before the injections were given.

All cases of poliomyelitis occurring in Utah County after September 7, 1951, were reported directly to the study group as well as to the Utah State Department of Health, and reports of earlier cases were made available to the group. Several previously unreported cases were discovered during the investigation. An unusually close working agreement was maintained with the physicians in the area. All patients were visited by a physician member of the group, and muscle evaluation was done by Miss Miriam J. Jacobs, a physical therapist working with the team. Each home was visited at least once, and usually two or more visits were made in order to interview the relatives with regard to contacts as well as to obtain other epidemiological data.

The present report concerns only the town of Payson, as in this town it was apparently possible not only to trace the disease through the community but to identify presumptively the source of the initial infection with some degree of certainty.

The town of Payson, population 3,979, is located in the southern portion of Utah County. The major industries are farming and steel manufacture, and many of the residents commute to the nearby factories. The water supply for the community is taken from a stream in a nearby canyon and no chlorine treatment is used. Analysis of this water during 1951 showed *Escherichia coli* present in significant amounts in 17 of 27 samples tested.[11] Irrigation water was derived from a similar source and was routed in open ditches through the town to provide irrigation for gardens, lawns and trees in the community. These ditches also served as play areas for the children, with or without parental consent or knowledge. A city-operated sewage system was in use, averaging 6.6 persons per connection. The sewage was inadequately treated in an Imhoff tank designed for 600 persons.[8] The effluent was discharged into nearby Utah Lake, the largest body of water in the region, which was already grossly contaminated by sewage from other towns in the region.[8]

During the previous ten-year period Utah County had experienced one major poliomyelitis outbreak —in 1943, with a rate of 141 per 100,000—and the disease had been present in the county during each of the other years in rates ranging from 16.1 (1942) to 66.1 (1949) per 100,000. The town of Payson, however, had been almost free of the disease during this period. Only one case was reported from Payson in each of three years during the ten-year period. These occurred in 1946, 1949 and 1950. Checking these data with the crippled children's organization suggested that the actual incidence of the paralytic disease did not exceed the reported incidence significantly.

For several reasons this city made an ideal area for epidemiological study. The 1951 outbreak of poliomyelitis in Utah County did not involve Payson until almost one month after its onset in other cities of the area. Consequently, the majority of the parents restricted the activities and contacts of their

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TABLE 1.—*Poliomyelitis, Utah County and Payson, by age of onset*

Age at Onset (Year)	Utah County Excluding Payson			Payson			Utah County Total		
	No. of Cases		Per Cent	No. of Cases		Per Cent	No. of Cases		Per Cent
0-1	3	34	35.4	0	5	22.7	3	39	33.1
1	5			1			6		
2	8			0			8		
3	7			0			7		
4	11			4			15		
5	8	32	33.3	3	11	50.0	11	43	36.4
6	8			3			11		
7	8			3			11		
8	4			1			5		
9	4			1			5		
10-14		14	14.6		3	13.6		17	14.4
15-19		6	6.3		0			6	5.1
20+		10	10.4		3	13.6		13	11.0
		96	100.0		22	100.0		118	100.0
Modal age		4 yr.			4 yr.			4 yr.	
Median age		6.2 yr.			6.7 yr.			6.3 yr.	
Mean age		8.8 yr.			9.2 yr.			8.9 yr.	

children both before and during the present outbreak; and, because of their unusual concern and the limited movements of their children, were able to give unusually accurate information regarding their children's contacts. The apparent relative absence of the paralytic disease for at least ten years previously suggested that an increased number of susceptible persons might be present, thus creating extremely favorable conditions for dissemination of the virus in the community. This latter supposition, however, was subsequently believed to be in error, since no significant difference was present in median, mean and modal ages at onset in the groups, as is noted in Table 1. Apparently, although few clinical cases had been present, subclinical and asymptomatic infections had occurred to a degree not appreciably less than in the rest of the county during the previous ten-year period, resulting in a relatively equal latent immunization of the community.

A history of contact, in this series of cases, was recorded in those instances where a history of definite close association of an hour or more was obtained, such as a visit to a friend's home or play contacts of children. Casual contacts on the street or in stores were not recorded.

The type of contact was considered direct when the patient gave a history of contact with a person who had a definite case from 3 to 30 days prior to onset. Indirect contact was recorded when a history was obtained of close contact with another person (either well or with minor illness), who, in turn, had been in contact, from one to four weeks previously, with a person who had the disease. In no instances was contact considered through more than one intermediary.

The first case of poliomyelitis reported in Payson during 1951 was in a nine-year-old boy, with onset July 30. Three of his five siblings became ill, on July 31, August 3 and August 6, ages, 5, 10 and 7 years, respectively. All had typical clinical history and three of the four had findings consistent with bulbospinal poliomyelitis, the fourth with spinal paralytic disease.

A study of the home indicated that the premises were unusually dirty. The yard contained much rubbish and garbage, providing an ample breeding place for flies. The home had an open pit privy, allowing free access to flies. Several dogs and the neighbors' cow and pigs added to the odor and general uncleanliness of the area. The house itself was untidy, and the children showed evidence of much parental love but little soap and water. Several of the neighborhood children frequented this home.

The children in this home had had no definite contact with poliomyelitis as far as could be ascertained, with one exception. On July 23 a relative with her one-year-old child came to visit this family and stayed in the home for six days. Previously this infant had lived in an adjacent county, in a town where poliomyelitis was present. A few days before the visit she had become ill with fever, irritability and diarrhea, accompanied by pain when the legs were moved. The child remained ill during the visit and all the children in the home, as well as some of the neighborhood children, were in close contact with her during this period. Following the illness the infant was unable to stand, although she had been attempting to walk previously. Muscle evaluation on two occasions indicated that definite weakness of the right leg was present. Atrophy of the right quadriceps was noted on the final examination done four months following the illness. Although no spinal fluid was obtained during the illness, the diagnosis of poliomyelitis appears to be justified. It would seem that this child was the prob-

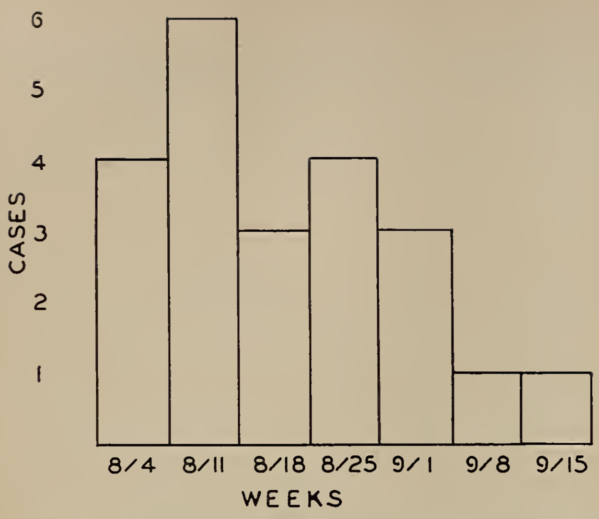

Chart 1.—Number of cases of poliomyelitis in Payson, Utah, by week of onset, in the period August 4 to September 15, 1951.

TABLE 2.—*Contact history in 22 cases of poliomyelitis*

Case No.	Age (Year)	Sex	Onset Date 1951	Type of Paralysis*	Contact: Paralytic Case	Contact: Abortive or Suspect Carrier	Contact: Unknown
1	9	M	7-30	BSP	X	....	....
2	5	F	7-31	SP	X	....	....
3	10	M	8- 3	BSP	X	....	....
4	4	M	8- 4	BSP	....	X	....
5	26	F	8- 5	SP	X	X	....
6	4	M	8- 5	BSP	....	X	....
7	7	F	8- 6	BSP	X	....	....
8	6	F	8- 8	BSP	....	X	....
9	21	F	8-10	SP	....	X	....
10	5	F	8-11	SP	....	X	....
11	8	M	8-15	BSP	X	X	....
12	26	F	8-15	SP	....	....	X
13	6	M	8-18	BSP	....	X	....
14	1	M	8-22	SP	....	X	....
15	6	M	8-24	BSP	....	X	....
16	10	M	8-25	SP	X	....	....
17	5	M	8-25	BSP	....	....	X
18	7	F	8-28	BSP	....	X	....
19	7	M	8-29	BSP	X	X	....
20	4	F	9- 1	SP	....	....	X
21	11	F	9- 4	SP	X	....	....
22	4	F	9-13	SP	....	X	....
Totals				22	9	13	3

* Code: BSP = Bulbospinal poliomyelitis; SP = Spinal poliomyelitis.

able source of infection for the initial cases reported from Payson.

The first case to occur in another family was that of a four-year-old boy in whom bulbospinal poliomyelitis developed August 4. Although this child had no known direct contact with members of the initial family, he lived nearby and one of his playmates had close contact within the home with both the initial family and the sick infant. This playmate remained well but may have become a healthy carrier through this contact with the virus.

The second case to develop in another family was that of a 26-year-old woman, with onset of spinal poliomyelitis August 5. Her only known contact with the virus, as far as could be determined, was a visit to another home in which the sick infant (previously referred to) was also visiting. The woman spent several hours in the home, and it is believed that her visit coincided with that of the infant and the infant's mother. An adult male member of the household in which the infant and its mother visited briefly, became ill, with headache and stiff neck, at about the same time that the 26-year-old visitor became sick. He was not examined by a physician during the acute episode and no muscle weakness was detected at a later date. Consequently, for the purpose of this study he was not regarded as having had poliomyelitis.

The next cases to develop were predominantly in children who had contact with the primary focus through an intermediary. One of these, that of a 20-month-old boy with onset of spinal poliomyelitis on August 22, was of particular interest. The patient lived on a farm about two miles from the center of town and, with two exceptions, had not been in contact with other children during the previous month. One of the exceptions was his three-year-old sibling, who probably had abortive poliomyelitis about two weeks before, and the other was a two-year-old girl who lived near the home of the children with the initial cases and was one of the playmates of several of those children. This playmate was a frequent visitor, accompanying her father from town while he helped with the work on the farm. This child was not known to be ill at any time during this period. It is felt that this instance represents an infection brought to this home by the playmate and was manifest first as an abortive illness in the older sibling and later as a paralytic illness in the 20-month-old child.

Another example of rather obvious direct contact was the case of an 11-year-old girl with onset of spinal poliomyelitis on September 4. Her only known contact with the disease was about two weeks previously, at which time a woman who lived nearby, who was ill and had complaint of weakness of the right arm, helped her make cookies. Extension of definite spinal poliomyelitis developed in this woman during the next few days.

Of the remaining cases in this outbreak, the majority could be traced similarly, either directly or through a series of cases and not more than one suspect or abortive case or healthy carrier to the home into which the virus was presumably first introduced. The distribution and contacts are shown in Table 2 and Chart 1.

A total of 22 cases occurred in Payson, giving a rate of 553 per 100,000. There was a history of contact with the initially introduced case in four of these and a probable contact in one additional case.

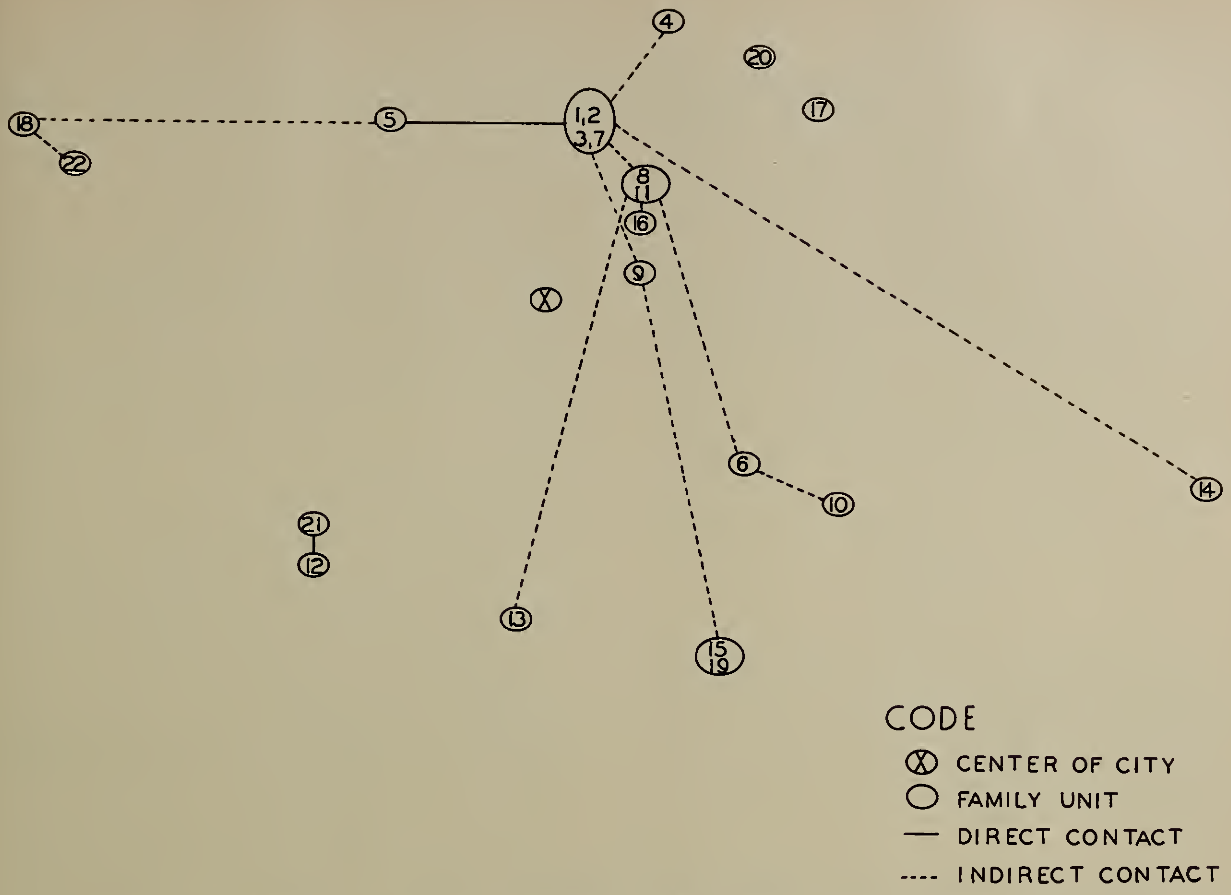

Chart 2.—Contact history of poliomyelitis epidemic in Payson, Utah, July 30 to September 13, 1951.

TABLE 3.—*Age distribution and type of involvement in 22 cases of poliomyelitis at Payson, Utah*

Age in Years	Bulbospinal	Spinal	Total
0-4	2	3	5
5-9	9	2	11
10-14	1	2	3
15-19	0	0	0
20+	0	3	3
Total	12	10	22

Thirteen additional cases appeared to have followed contact, through intermediaries with the family in which the first cases occurred. In three instances no definite contact could be ascertained, and the final case occurred following close contact, during the early paralytic stage, with one of these three cases of unknown origin.

In 12 cases there was bulbospinal involvement and in 10 cases spinal paralysis alone was manifest. There was no instance of bulbar involvement without spinal paralysis, and no nonparalytic cases were recognized. This pattern did not differ significantly from that in other parts of Utah County, where only 3.2 per cent of all cases showed only bulbar without spinal involvement. The age distribution of Payson cases is shown in Table 3. No deaths occurred.

Although the patients, with three exceptions, used city water (which was referred to previously), the curve of the outbreak (Chart 2) did not resemble that of a waterborne epidemic, nor did the radial spread throughout the town suggest this. The irrigation water was not believed to be a factor as it was not accessible to some of the patients, and as the occurrence of cases indicated that the spread was in the opposite direction from that of the flow of water. No common contact with the known contaminated lake was present, and although flies could have played a part in the dissemination of the disease, particularly during the early part of the outbreak. it would seem difficult to believe that the flies would fortuitously infect predominantly persons with a history of close direct or intermediate contact with patients with poliomyelitis.

With regard to the type of contact, the most frequently obtained history was that of close contact of children during play periods. In those patients having single contact, only two in number, the contact was close and of a duration exceeding one hour. In one instance the interval between contact and onset of disease was seven days and in the other 14 days.

It is emphasized that all of the patients had contacts other than those traced back to the original source, and, through the parents, contacts with other towns as well. However, it would seem difficult to explain this sequence of cases by means other than that of direct personal contact with either early cases or contacts of early cases. It is felt that this experience again confirms the work of Casey,[12] Perkins[10] and earlier investigators who emphasized the importance of personal contact in the epidemiology of poliomyelitis. However, it should be noted that this unusual success in contact tracing was not possible in other portions of Utah County[8, 12] nor in the Iowa-Nebraska portion of the study.[13] The Payson community appeared to be unusually favorable for contact tracing.

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REFERENCES

1. Casey, A. E.: Place of contact and radial spread of epidemic poliomyelitis, Am. J. Dis. Child., 69:152-156, 1945.

2. Casey, A. E., Fishbein, W. I., and Bundeson, H. N.: Transmission of poliomyelitis by patient to patient contact, J.A.M.A., 129:1141-1145, 1945.

3. Draper, G.: Acute Poliomyelitis, P. Blakiston's and Sons, Philadelphia, 3:13-23, 1917.

4. Hammon, W. McD., Coriell, L. L., and Stokes, J., Jr.: Evaluation of Red Cross gamma globulin as a prophylactic agent for poliomyelitis. I. Plan of controlled field tests and results of 1951 pilot study in Utah, J.A.M.A., 150:739-749, 1952.

5. Hammon, W. McD., Coriell, L. L., and Stokes, J., Jr.: Evaluation of Red Cross gamma globulin as a prophylactic agent for poliomyelitis. II. Conduct and early follow-up of 1952 Texas and Iowa-Nebraska studies, J.A.M.A., 150:750-756, 1952.

6. Hammon. W. McD., Coriell, L. L., Wehrle, P. F., Klimt, C. R., and Stokes, J., Jr.: Evaluation of Red Cross gamma globulin as a prophylactic agent for poliomyelitis. III. Preliminary reports of results based on clinical diagnoses, J.A.M.A., 150:757-760, 1952.

7. Hammon, W. McD., Coriell, L. L., Wehrle, P. F., and Stokes, J., Jr.: Evaluation of Red Cross gamma globulin as a prophylactic agent for poliomyelitis. IV. Final report of results based on clinical diagnoses, J.A.M.A., 151:1272-1285, 1953.

8. Health in Utah County, Utah County Planning Association, Provo, Utah, 1950-1951.

9. Maxcy, K. F.: Papers of Wade Hampton Frost. New York, Commonwealth Fund, 120-269, 1941.

10. Perkins, J. E.: Apparent spread of poliomyelitis through four families, Minn. Med., 24:924-934, 1941.

11. Personal communication from Utah County, Utah, District Health Office.

12. Unpublished data, Utah County, 1951.

13. Unpublished data, Woodbury County, Iowa, and Dakota County, Nebraska, 1952.

14. Wickman, I.: Acute Poliomyelitis, Nervous and Mental Disease. Monograph Series No. 16, J. Nerv. and Ment. Dis. Pub. Co., pp. 99-119, 1913.

Gamma Globulin for the Prophylaxis of Poliomyelitis

With the end of the National Distribution Program of Gamma Globulin as of December 31, 1954, the limited supply of this material remaining in California was turned over by the Federal Office of Defense Mobilization to the State Health Officer for use as he saw fit.

The State Ad Hoc Advisory Committee on Prophylaxis of Poliomyelitis in its meeting January 21, 1955, recommended that the unexpended supply of gamma globulin now on hand be released to physicians through local health departments for the same use as last year with emphasis on the extremely limited value of its use for poliomyelitis prophylaxis. The current status of usefulness of gamma gobulin for this purpose may be concisely summed up as follows: "The protective capacity is controversial, the conditions for its use undefined, and the theoretical indications difficult to meet: Of no practical value."*

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*"The Control of Communicable Diseases in Man," an official report of the American Public Health Association, eighth edition, 1955, page 137.

Physical Medicine for Injured Hands

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• The functional concepts of treatment of the injured hand by use of the various modalities of physical medicine, including heat, massage, electrical stimulation, passive exercises, active exercises, occupational therapy and splints are discussed. Immobilization is often necessary to correct anatomical injuries. Mobilization activities using physical medicine are just as necessary to correct functional deficiencies of the hand occurring either from the injury or the enforced immobilization following an injury.

INJURY TO THE HAND is one of the most disabling accidents than can happen to a worker. Industry pays more for hand disabilities than for those in any other part of the body and many companies pay more for them than for injuries in all other parts of the body combined.[3]

Much medical attention has been focused on the proper treatment of such injuries, but most of the emphasis has been put upon the anatomical aspects of treatment. This means adequate examination of the skin, good circulation, good bone alignment, intact tendons and normal skin sensation. The hand is then immobilized so as not to jeopardize any of these anatomical components of skin, circulation, tendons, bones and nerves. However, as Bunnell[2] has frequently pointed out, "hands are peculiar in that they are prone to become stiffened."

After anatomical healing of the injured part has taken place the immobilization apparatus is removed and usually there is stiffness present. This stiffness has several components: Edema involving all soft tissue structures and particularly the joint capsules; some shortening of joint capsules and of other soft tissues; stiffness of disuse in the muscles, particularly the intrinsic muscles of the hand, which therefore do not function correctly in moving the fingers; and pain, which is a factor in limiting active motion of the joints, particularly during the first few weeks.

All these factors are best and most quickly eased by the various means of physical medicine if they are properly used. Physical medicine includes the use of light, heat, water, electricity, massage, manipulation, exercise and mechanical devices in the treatment of disease. It is most commonly divided into two sections—physical therapy and occupational therapy.

Heat. The purpose of giving heat is twofold. First, it brings about vasodilatation, and with the increase of circulation comes improvement in the metabolism of the hand and removal of tissue metabolites. Second, the heat acts to anesthetize the endings of the nerves that transmit pain and thereby makes possible a greater voluntary effort.

There are many ways to apply heat to various parts of the body, but some of them are not suitable for the hand. For example, infra red is commonly used on the larger joints of the body but is not effective for use on the hand. The efficacy of infra red depends upon absorption by the skin surfaces. Since infra red is beamed on the skin from only one direction, only those surfaces in direct line with the rays are heated. As the hand has relatively large skin surface, only part of the member would be heated.

Diathermy can also be applied to the hand. However, diathermy has its effect mainly through the soft tissues and particularly the vascular tissues, and since there is not much tissue of that kind in the hand, diathermy is not a very effective method for use there.

Hot packs of woolen material soaked with hot water and thoroughly wrung out can also be used for the hand. However, the skin over an injured hand which has been immobilized is usually quite sensitive and will not tolerate hot packs well. Furthermore, there is the usual criticism of hot packs that the heat is not constant; the degree of heat is high at first and then there is gradual cooling. The paraffin glove method is another way to apply heat. The "gloves" are made by rapidly dipping the hand into barely melted paraffin six or seven times in succession until the hand is well coated. After this the hand is wrapped in some insulating material, such as a blanket, and the wrapping is kept on for about 20 minutes. This is a very good way of heating the hand, although it requires that the patient's fingers be immobile while the heat is applied.

The most efficient method of heating the hand is the whirlpool bath. This consists of immersing the hand for 10 to 15 minutes in rapidly whirling water maintained at a temperature of approximately 105°. Besides the effect of heat, there is the added advantage that, with relief of some of the pain by

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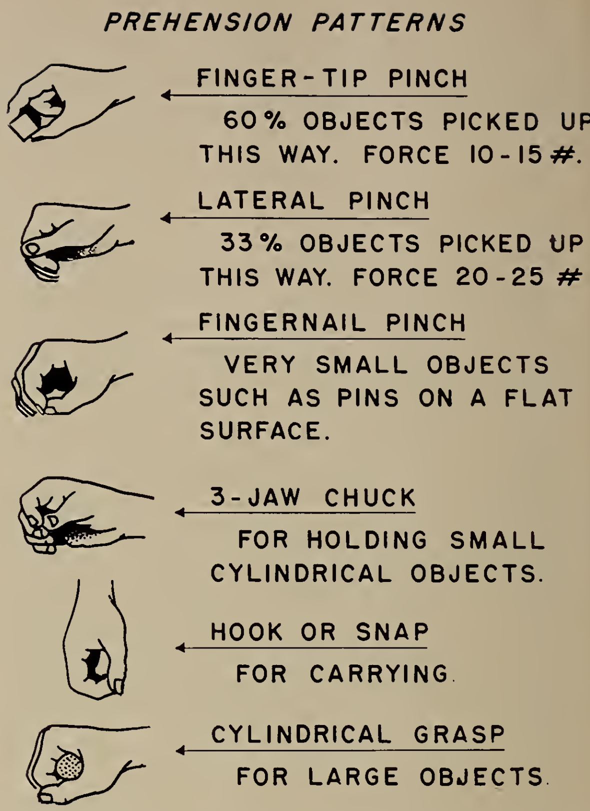
the whirling water, the patient can do active exercises in the water by squeezing a sponge or rubber bulb. This treatment should be given daily if possible. Ordinary hot soaks should not be used by the patient at home unless he has been carefully instructed and can be trusted to do active exercise while soaking.

Massage in treatment of the hands has only two purposes. First, edema can actually be massaged out of the hand. Second, by stretching the tight skin, elasticity can be restored and skin circulation can be improved.

Electrical stimulation is valuable if used judiciously. In the first few days after removal of the hand from a cast, when the muscles, particularly the intrinsic muscles, are quite stiff from inactivity, electrical stimulation with galvanic current (or faradic current if the nerve supply is intact) will start contractions of the muscles. The appearance of the hand, particularly its color, often is greatly improved after five minutes of such muscle stimulation. The enforced contractions of the intrinsic muscles greatly stimulate the deep circulation of the hand. Unless paralysis is present, it is usually not necessary to give stimulation more than a week. When the nerve supply has been temporarily interrupted, electrical stimulation is extremely valuable in maintaining elasticity and contractility of the muscles while the nerve supply is regenerating. The type of electrical current to use is that which will give a maximum contraction with a tolerable strength of current.

Passive exercises are useful if done intelligently and with an understanding of what is to be accomplished. Stretching, or even manipulation, might be included within the definition of passive exercise. Although the terms are anathema to many surgeons, in order to mobilize the phalangeal joints it is often necessary to stretch the collateral ligaments. This is done by stretching the joints laterally and also by attempting to rotate one joint on the other. The finger is then grasped just above the joint to be loosened and pulled in the same direction as the bone. While it is being pulled, it is then gradually eased into flexion at the joint being worked upon. This has to be done gently and without extreme force; otherwise harm can occur to the joint capsule as in any other forceful manipulation. If done judiciously, it will improve flexion. Each interphalangeal joint is worked upon individually and also the metacarpophalangeal joint.

Active exercises. This is the major and most effective part of the treatment. The previously described measures are adjunctive or preliminary to it. Active exercises will do more toward improving the circulation, removing edema, stretching out soft tissues and improving muscle strength than any other procedure.


PREHENSION PATTERNS
FINGER-TIP PINCH
60% OBJECTS PICKED UP THIS WAY. FORCE 10-15 #.
LATERAL PINCH
33% OBJECTS PICKED UP THIS WAY. FORCE 20-25 #
FINGERNAIL PINCH
VERY SMALL OBJECTS SUCH AS PINS ON A FLAT SURFACE.
3-JAW CHUCK
FOR HOLDING SMALL CYLINDRICAL OBJECTS.
HOOK OR SNAP
FOR CARRYING.
CYLINDRICAL GRASP
FOR LARGE OBJECTS.

To function as an all-purpose grasping organ, the hand uses several prehension patterns (Figure 1) for specialized tasks. The most commonly used is finger-tip pinch. A force of ten to 15 pounds can be exerted normally in this fashion for picking up a majority of objects. Lateral pinch is the next most frequently used grip and a normal force of 20 to 25 pounds can be obtained with it. Fingernail pinch is used for very small objects such as pins on a flat surface. The "three-jawed chuck" is formed by the thumb against the index and middle fingers for handling small cylindrical objects. The hook is used for carrying heavy loads, with the thumb acting as the snap or spring to lock the hook. Cylindrical grasp is used for gripping large objects.

All these functions should be worked upon with a definite exercise routine. Telling the patient to squeeze a rubber ball is a mistake for the balls are usually so large and firm that they cannot be squeezed down even by a normal hand. It is much better to have him use a rubber sponge or bulb that can be crushed or pinched in various ways.

The patient must also be taught the proper way for opening and closing the hand in order to gain maximum excursion and to loosen tight structures. Closing the hand involves full flexion, first of the distal interphalangeal joint then the proximal interphalangeal joint and finally the metacarpophalangeal joint. Opening the hand should be done in the reverse fashion. Patients who have painful hands usually close the hand by flexing at the metacarpal joints first before attempting to flex at the interphalangeal joints. This causes them to use their intrinsic muscles to extend the distal phalanges and therefore makes it almost impossible for the long flexor tendons to flex the distal phalanges by which the fingertips touch the palm and close the hand.

Another point commonly overlooked in active exercise of the hand is the proper use of the thumb. The thumb almost always needs strengthening, particularly of the opponens and abductor muscles. Exercise must be directed to the intrinsic muscles of the hand, since they have been almost completely immobilized and have lost much of their power. Strengthening exercises must be given the muscles of the forearm, particularly the long flexors and extensors of the wrist and fingers. Various devices in the form of spring handles and bulbs of varying resistance, as well as weights and pulleys, are used to gradually increase the difficulty of the exercise. An excellent exercise to improve finger motion and grip is to make a "newspaper ball": A page of newspaper is laid flat and the patient gradually rolls it into a ball starting at one corner and continuing to wrinkle it into the palm without ever releasing it.

Occupational therapy is a much neglected aspect of physical medicine, particularly with regard to hand injuries, where it can help most. Occupational therapy has to be prescribed as precisely as physical therapy. The joint to be mobilized and the muscle to be strengthened should be given occupational tasks requiring repeated motions and continuous use of those joints and muscles. Occupational exercises are much less boring to the patients than are those carried out only for the sake of restoration, for the hand is used in a functional way rather than just to limber a joint or strengthen a muscle. There are special occupational therapy procedures for hands which include use of various types of tools whose handles have been increased according to the limitations of the grip. There are other types of activities such as woodworking, sanding, finger painting, clay modeling and belt tying. Unfortunately, too often patients and physicians misinterpret the purpose of occupational therapy, thinking it merely a recreational task without any functional purpose. If at all possible, patients should be given occupational tasks for improvement of function of the hand.

Splints. Frequently contractures occur in the hand after injury. It will do little good to carry out physical therapy if no effort is made to maintain corrections in the intervals between treatments. Good results depend upon appreciation of the inherently dynamic function of the hand as opposed to the essentially static nature of the usual kind of splinting.[1] The best splinting exerts continuous traction against the contracted structure yet does not immobilize the hand. Splinting of this kind was described by Bunnell,[2] who used various arrangements of rubber bands to exert traction at almost any joint of the hand. Such splinting is functional splinting, and as it serves to improve mobilization, treatment is being carried on constantly. This kind of splinting is probably one of the most neglected phases of physical treatment of the injured hand.

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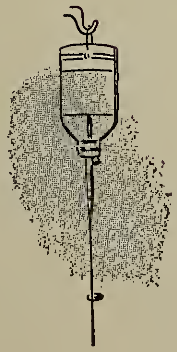
REFERENCES

1. Bruner, J.: Problems of postoperative position and motion in surgery of the hand, J. Bone and Joint Sur., 35A: 355-66, April 1953.

2. Bunnell, S.: Active splinting of the hand, J. Bone and Joint Sur., 28:732-36, Oct. 1946.

3. Flack, F. L.: Hand disabilities, So. M. J., 45:784-89, Sept. 1952.



Office Management of Allergic Children

MORTON ZALL, M.D., Los Angeles

• *There is a high incidence of allergic disease in average pediatric practice. Proper diagnosis and treatment can and should be carried out by a higher percentage of practitioners. A thorough history is the most reliable diagnostic method. Skin testing is quite often a very necessary diagnostic tool. Following testing, desensitization may be necessary. The technical details of these procedures should be common medical knowledge. Where desensitization is necessary and is properly carried out, the results are definitely better than with mere symptomatic management.*

CHILDREN DIFFER so much from adults that a line can be drawn between adult allergic disease and that of childhood.[6] There are special problems in pediatrics which complicate the allergic picture, and certainly pediatricians are much better trained to cope with them than are adult allergists.

At the School of Medicine, University of California at Los Angeles, especial attention is being given to instruction as to management of allergic disease in children. This phase of pediatrics has only lately been delineated clearly in the pediatric textbooks, and even here it is not presented in a format that makes it easy to put into practice. Until recently, there were very few medical schools that gave any time specifically to pediatric allergy. Considering the high incidence of allergic disease in average pediatric practice, it is regrettable that this field is still being neglected in most medical schools.

At U.C.L.A., an effort has been made to so simplify the methods of diagnosis and treatment of allergic disease that they will not seem to students impossible to use in ordinary practice. We begin by giving basic didactic lectures and then quickly go into the actual practical procedures that are necessary in office practice. We stress the importance of careful history-taking in each case, since the history is the most reliable single factor for detecting the antigen that is causing an allergic manifestation.[4, 9] It is emphasized that at least an hour should be set aside for the initial history, and this should be supplemented with follow-up questioning from time to time. Skin testing is given its proper perspective so that the students recognize that it is merely another laboratory procedure like fluoroscopy or electrocardiography. We invariably do scratch tests first, and find that this suffices in many cases. However, it is often necessary to do intradermal testing also. At the 1953 annual meeting of the American Academy of Pediatrics, the Allergy Section devoted an entire panel session to office management of allergic diseases in children. It was amazing to see the enormous differences in the attitudes of the discussants with regard to skin testing. Ratner of New York City said he tested with about 500 materials, many of them intradermally, whereas Deamer of San Francisco said he used between 20 and 80 materials, all of them by the scratch method, and seldom found intradermal tests necessary. The "average" opinion was that about 80 to 120 representative tests were sufficient, and that intradermal tests are often necessary but need not be done to as great an extent as scratch tests.

At U.C.L.A. we have a standard list of 80 tests (see accompanying form). The first group of tests covers the important pollens in the Los Angeles area.[5, 7, 8] The first three tests cover the important trees, the next nine the grasses and the remainder the weeds. Following this is a group of tests for foods in the various categories; and finally there are tests for epidermal materials that are important as inhalant allergens. The inadequacies of the food tests are explained to the students but at the same time it is shown how important the inhalant tests are. Since the patients are dealt with in a clinic, we do all of these tests routinely.

All testing solutions, trays, treatment materials and paraphernalia of all types are obtained from commercial suppliers, for that is the source from which the student will get his supplies when he starts practice. We try to remove as much of the mystery from the subject as possible, lest the student throw up his hands at facing an impossible task. The Pirquet borer is easily obtained, so we use that for the scratch tests.[3] We show this work is not completely out of the field of the pediatrician or general practitioner, either from the standpoint of the physical setup or the amount of knowledge required. After the preliminary didactic work and basic instruction the students at U.C.L.A. then actually participate in the work of the clinic. They take histories and do physical examinations; then, under close

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Presented before the Section on Pediatrics at the 83rd Annual Session of the California Medical Association, Los Angeles, May 9-13, 1954.

From the Department of Pediatrics, University of California at Los Angeles.

TRAY 1	Sc	Id	Sc	Id	TRAY 3	Sc	Id	Sc	Id
1. Juglans californica—California Black Walnut (3-4)					1. Carrot				
2. Olea europa—Olive (4-5)					2. Celery				
3. Quercus agrifolia—Coast Live Oak (3-4)					3. Lettuce				
4. Bromus rigidus—Broncho (4-5)					4. Onion				
5. Cynodon dactylon—Bermuda (3-10)					5. Green Peas				
6. Distichilis spicata—Salt grass (3-6)					6. String Beans				
7. Elymus condensatus—Giant rye (5-8)					7. White Potato				
8. Holcus halepensis—Johnson (6-8)					8. Tomato				
9. Lolium multiflorum—Italian rye (3-5)					9. Cocoa				
10. Lolium perenne—Perennial rye (4-8)					10. Cocoanut				
11. Poa annua—Annual June (1-5)					11. Peanut				
12. Poa pratensis—Kentucky Blue (4-8)					12. English Walnut				
13. Amaranthus retroflexus—Redroot Pigweed (7-10)					13. Beef				
14. Chenopodium album—Lambs Quarters (4-8)					14. Chicken				
15. Ambrosia psilostachya—Western Ragweed (8-10)					15. Lamb				
16. Artemisia californica—Coast Sage (7-12)					16. Pork				
17. Artemisia vulgaris het.—Mugwort (7-10)					17. Rabbit				
18. Franseria acanthicarpa—False Ragweed (8-10)					18. Turkey				
19. Atriplex lentiformis—Lenscale (7-9)					19. Cottonseed*				
20. Salsola kali—Russian Thistle (5-10)					20. Pyrethrum				

TRAY 2	Sc	Id	Sc	Id	TRAY 4	Sc	Id	Sc	Id
1. Barley					1. Cow's Milk Casein				
2. Corn					2. Cow's Milk Lactalbumin				
3. Oat					3. Goat's Milk				
4. Rice					4. Egg White				
5. Rye					5. Wheat				
6. Halibut					6. Mixed Feathers				
7. Salmon					7. Cat Hair				
8. Shrimp					8. Cattle Hair				
9. Prune					9. Dog Hair				
10. Grapefruit					10. Horse Hair				
11. Banana					11. Rabbit Hair				
12. Grape					12. Wool				
13. Olive					13. Goat Hair				
14. Orange					14. Kapok				
15. Peach					15. Orris Root				
16. Pineapple					16. Tobacco				
17. Apple					17. Silk				
18. Apricot					18. House Dust				
19. Soy Bean					19. Alternaria				
20. Cabbage					20. Hormodendrum				

*Cottonseed will not be tested intradermally.

EVALUATION OF SKIN REACTION

☐ Erythema 1+ 2+ 3+ 4+ ☐ Wheal A B C D

Diagram of Reaction:

Form used at U.C.L.A. School of Medicine Pediatric Allergy Clinic for recording results of tests with allergens. The numbers in parenthesis after the names of the plants indicate the months of peak pollenization.

supervision, they take a hand at the testing, participate in the general management and give some of the treatment injections. They are taught a small amount of basic botany and are made to understand the differences, as to allergenic factors, in the various areas of the country.

Since one of the most important things to be done in dealing with a child with allergic disease is to determine how far to carry diagnosis and treatment, an effort is made to impress students with the importance of assessing the severity of each case. The simplest cases require very little time and very little treatment, whereas intensive investigation and exhaustive therapy is necessary in severe cases. This is the one thing the students cannot learn, as it comes only with increasing experience. If the case is severe enough to require testing, the values as well as the limitations of the tests are explained to the parents, who usually have to be convinced. Here again, confidence and experience are necessary. It is helpful to demonstrate on the parent's forearm just how the scratches are made and usually they are surprised at the relative simplicity. The author does the scratch tests on the child's back and intradermal tests on the upper arm. The scratches are usually done 40 at a time and then 50 per cent glycerine extracts[3] are applied in the order shown on the chart. To keep a small child immobile, one of the parents holds the child over his shoulder and a nurse holds the child's arms around the parent's neck while the parent holds the trunk and legs. The scratches can be made in a few seconds and the extracts are applied in amounts so small they will not run. The extracts for scratch tests come in small dropper type bottles. Usually if it is necessary to do intradermal tests after the scratch tests, the parents are amenable. The author believes that it is very important, at least during the first years of practice, for the physician to do all of the testing himself, unless he is blessed with an unusually competent nurse who has had excellent training in allergy. Certainly the reading and interpretation of the tests must be done by the physician. (At the previously mentioned panel discussion, the question of who should do the testing provoked a great deal of discussion, Glaser arguing that the nurse should do all or most of the testing, Deamer that it was incumbent upon the physician to do it.) Children show flaring or erythema much oftener than whealing and there is no such thing as standard sized flares and wheals.[1] Each child is a rule unto himself and the degree of reaction is a relative thing for that individual child. The "negative" reactions are the controls, and the "positive" reactions are graded downward relatively from the strongest. In our clinic a diagram is drawn on the test sheet showing the approximate size of the largest reactions for future reference.

Completing the skin tests should not be the signal for invariably plunging the patient into a long course of treatment. (During the previously mentioned panel discussion, Ratner, who stretches an extremely long series of tests over a period of three to five months, said that he frequently had good therapeutic results merely from the testing procedure alone.) In determining the need for hyposensitization, the question of the relative severity of the case again arises. It is often necessary to observe the patient for several weeks to several months before deciding on the correct course of action. The author does not insist beforehand that where desensitization is necessary it must be carried out over such-and-such a period of time; this may be embarrassing if the allergic manifestation clears rapidly, for the parents then may be skeptical of the need for "superfluous" injections. (The consensus of the members of the panel was that if such treatment is necessary it is usually required over a period varying from one and a half to five years, and that if it is adequately carried out, good results are obtained in as high as 85 per cent of cases.) It is always wise for a physician to visualize for the parents the expected fluctuations in the clinical manifestations and to train them to notify him or to visit the office as the symptoms demand. Generally the author gives one injection a week, but for the more severe cases and for flare-up, two or more may be necessary. The best rapport is developed where the physician gives as many of the injections as he can and talks to the parents each time they come in. Certainly if the child is having trouble the physician should always discuss it with the parents and not leave it to a nurse.

The stock antigens which we use in treatment at the U.C.L.A. clinic are as follows:

1. Spring (grass): Cynodon dactylon, Lolium multiflorum, Poa annua.
2. Fall (weed): Ambrosia psilostachia, Franseria acanthicarpa, Artemesia californica, Artemesia vulgaris heterophyllis, Salsola kali.
3. Trees: Juglans calif., Olea europa, Quercus agrifola.
4. Dust stock as prepared by the Efron method.
5. Alternaria and Hormodendrum.
6. Feather mixture.

Because of the great amount of cross-antigenicity among the pollens of the large sub-groups, it is felt that these stocks can be used successfully for treatment in most cases. Occasionally, however, individual specific antigens are necessary.

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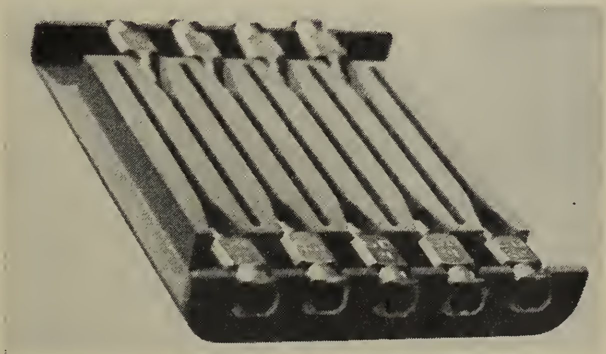
REFERENCES

1. Glaser, J.: Office management of the allergic child, Am. J. Dis. Child., 77:217-243, Feb. 1949.
2. Hansel, F. K.: Clinical Allergy, St. Louis, C. V. Mosby Co., 1953, p. 252.
3. Hansel, F. K.: Clinical Allergy, St. Louis, C. V. Mosby Co., 1953, p. 289.
4. Mitchell-Nelson Textbook of Pediatrics, Philadelphia, W. B. Saunders Co., 1950, 5th ed., p. 1506.
5. Piness, G., Miller, H., and McMinn, H. E.: Botanical survey of Southern California in relation to the study of allergic diseases, Bull. So. Calif. Acad. Sc., 25:37, 1926.
6. Ratner, B.: Allergy in Relation to Pediatrics, St. Paul, Bruce Co., 1951, p. x of introduction.
7. Small, W. S., Small, G.: Botanical survey of Southern California. Annals of Allergy, 4:352-371, Sept.-Oct. 1946.
8. Targow, A. M.: Pollen survey of Los Angeles 1941-1945, Ann. Allergy, 6:645-654, Nov.-Dec. 1948.
9. Tuft, L.: Clinical Allergy, 2nd ed., Philadelphia, Lea & Febiger, 1949, p. 70.

Protection for the Points of Hypodermic Needles

WERNER BERGMANN, *M.D.*, Oakland

BLUNTING OF THE POINT of a hypodermic needle often occurs during sterilization when the point comes in contact with the metal wall of the sterilizing tray.



The device shown in the photograph is a protective holder, with slots and notches to hold nine hypodermic needles of various sizes. Only 3 inches by 2½ inches, it fits into even a small sterilizing unit and yet leaves space for several syringes besides. Made of a plastic material that may be boiled or subjected to high temperatures in an autoclave without warping, it will last for at least a year under ordinary use. Besides protecting the points, the holder provides a place where needles may be kept in orderly arrangement by size, and from which they may be easily removed for use.

1904 Franklin Street, Oakland 12.

Submitted November 15, 1954.

Abdominal Incisions for Operations on the Colon and Rectum

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• *The magnitude of extirpative operations of the colon and rectum, advanced by improved supportive measures, may be increased by decreasing the extent of transverse abdominal incisions.*

The right colon can be removed with facility through a transverse incision across the left upper abdomen.

A left upper transverse incision, plus either an oblique or a Cherney incision, is preferable to a long vertical incision.

During the past two decades there has been a gradual but progressive shift from multiple-stage procedures to one-stage operations for extirpation of the colon and rectum. Such progress is not attributable to greater surgical skill, but is a result of the rapid advance in the knowledge and management of shock, fluid balance, chemical homeostasis, nitrogen balance, intestinal decompression, anesthesia and. to a lesser extent, chemotherapy and the antibiotics.

When confronted with the task of removing the colon, or the colon and rectum, surgical judgment in the choice of operative procedure may be the most important factor in the achievement of low mortality and decreased morbidity. Each patient must be considered individually and many factors weighed. The age and general condition, the pulmonary and cardiac status and the estimated native resistance must be balanced against such considerations as the gravity of the disease and the risk of anesthetizing and operating two or three times as opposed to once. In considering the physiologic aspects of surgical trauma,[4] the bodily changes in surgical convalescence,[5] and the metabolic effects of anesthesia,[3] one must conclude that a one-stage operation is the procedure of choice. Only when the life of the patient would be unduly jeopardized by a one-stage operation should the procedure be carried out in two or more stages.

Since the colon winds its way around the periphery of the peritoneal cavity, or at least seeks out the corners thereof, a major consideration in one-stage extirpative operations is the choice of the abdominal incision, or incisions. Mobilization of the splenic flexure of the colon necessitates an incision fairly high in the left upper quadrant of the abdomen. Anastomosis to the terminal sigmoid colon or upper rectum, and abdominoperineal proctectomy require an incision extending to the pubis. The surgeon must choose between single or multiple incisions. A single vertical incision from the costal margin to the pubis will provide adequate exposure for total colectomy. Such an incision is justifiable in operating on patients injured in war, particularly in hospitals close to the combat line, for usually the exploration of the entire peritoneal cavity is necessary, and speed is vital, since the patient often is bleeding and in shock. This is not the incision of choice, however, in the performance of elective operations.

The argument dealing with the relative merits of vertical and transverse incisions has been treated amply in the literature and will not be discussed in detail here except to emphasize that the transverse abdominal incision provides the following advantages:

1. Less postoperative pain
   a. Decreased postoperative shock
   b. Less sedation
2. Less sedation
   a. Decreased incidence of nausea
   b. More rapid return of normal peristalsis
   c. Earlier oral feeding
   d. Relatively unimpaired cough reflex
3. Deeper respiration, and more frequent turning in bed
   a. Decreased incidence of pulmonary complications
4. Earlier ambulation
   a. More rapid convalescence
5. Decreased tension on wound edges
   a. Retention sutures not required
   b. Primary union
6. Decreased incidence of dehiscence
7. Decreased incidence of incisional hernia.

From the U. S. Naval Hospital, Oakland 14.

The opinions or assertions contained herein are the private ones of the writer and are not to be construed as official or reflecting the views of the Navy Department or the Naval Service at large.

Chief of Surgical Service, U. S. Naval Hospital, Oakland.

Submitted November 3, 1954.

Unprejudiced reflection, physiologic consideration and time will eventually prove the advantages of the transverse abdominal incision. The powerful muscles of the abdomen are the oblique and transverse muscles. They not only initiate the act of turning in bed, but are the main propulsive force of turning. A normal person turns in bed many times each night, and after operation a patient should turn even more often. Why, then, should a vertical incision across the line of this preponderant muscular pull be made?

The "mystery" of the continued widespread use of the vertical abdominal incision is not at all mysterious. It is used by a majority of the leading surgeons of today because they used it in their youth, and are loath to change. Furthermore, most prominent surgeons of today neither make nor suture the abdominal incision—their assistants do. In the past, a surgeon who made a long transverse abdominal incision would have been accused of a lack of knowledge of anatomy. In the future, the routine use of the vertical abdominal incision can only be explained by a lack of appreciation of the function of the abdominal musculature.

Because the colon traverses the margins of both the right and left sides of the peritoneal cavity, it would appear that an incision across the entire abdomen would be required for total colectomy. Such is not the case. The colon lying in the right side of the cavity may be removed with ease through a transverse incision across the left upper quadrant of the abdomen. Obviously, such an incision would not be employed unless the transverse colon and splenic flexure were to be extirpated.

After division of the gastrocolic omentum, the middle colic artery and vein are divided and ligated at their base. With the transverse colon held in the left hand, the surgeon can push slightly opened scissors around the lateral margin of the hepatic flexure and ascending colon, dividing the peritoneum with facility. Thereupon, the entire right colon and terminal ileum are delivered through the left upper quadrant incision, and the left colic and ileocolic vessels may be clamped and divided at their base in full view. The technical ease is due to the fact that the operator is merely "unwinding" the embryologic rotation of the colon. The left transverse incision adequately exposes the midline origin of the arteries concerned and, in fact, encourages a more thorough resection of the mesentery. Suffice it to say that the surgeon who removes a colon through this incision for the first time will be amazed by the ease of the delivery of the right colon.

The pelvis cannot be adequately exposed by a transverse incision. However, an oblique incision (as advocated by Waugh[8]) provides satisfactory exposure for operation on the sigmoid colon and rectum, and it has the advantages of the transverse incision, as it parallels the nerve supply and is almost in line with the major muscular pull. This incision extends from a point superior and medial to the left anterior superior iliac spine to the right of the center of the symphysis pubis. The left rectus muscle is transected as in the case of transverse incisions.

The Cherney incision[1] is excellent, particularly when maximum exposure is desirable in operations on the rectum or sigmoid colon in obese patients or in infants. A curved incision is made 2 cm. above the symphysis pubis. The anterior rectus sheaths and the aponeuroses of the external abdominal oblique muscles are divided in line with the incision. The tendinous insertions of the rectus abdominus muscles are divided flush with the superior surface of the symphysis pubis, and the peritoneum is divided in line with the incision. The incision is below the panniculus of fat in the obese, an obvious advantage. In closing this incision the tendinous terminations of the rectus muscles are sutured to the anterior rectus sheaths with interrupted mattress sutures of cotton or silk, immediately superior to the symphysis pubis.

A modified or "half-Cherney" incision provides adequate exposure for the majority of operations on the sigmoid colon and rectum. This is made and sutured in the same manner as the Cherney incision, except that it is not extended to the right, and the tendinous insertion of only the left rectus abdominus muscle is divided.

The Cherney incision, while providing the greatest exposure, has two disadvantages. It takes 15 to 20 extra minutes to make and suture the incision. In the presence of massive pelvic contamination, when wound infection is anticipated, this incision should not be used, for if it should break open as a result of infection, there is not enough tissue below the incision to permit the placement of through-and-through sutures for secondary closure of the dehiscence.

The oblique and the Cherney incisions possess the physiologic advantages of the transverse incision, and either one is preferable to a vertical incision. Actually, only the lower half of a vertical incision provides exposure of the lower pelvis, whereas the full length of the oblique or Cherney incision is utilized for exposure.

Incisions for ileostomy or permanent colostomy deserve consideration. The incision for ileostomy should be made by a muscle-splitting technique either through or lateral to the right rectus muscle. A button of skin should be excised to eliminate the V-shaped gap that results on either side of the stoma if a straight incision is used, and also to lessen the risk of stenosis. Likewise, either a button of the an-

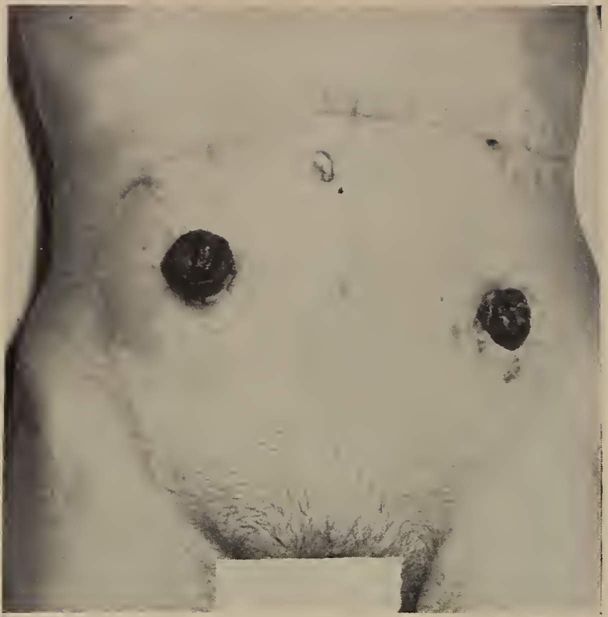

Figure 1.—Left transverse incision—in this case for total colectomy except sigmoid colon.

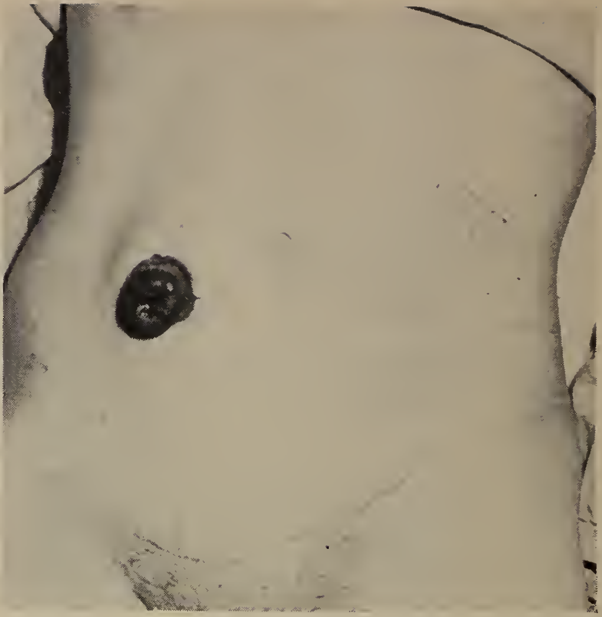

Figure 2.—Left upper transverse incision and "half Cherney" incision—here used for total colectomy and abdominoperineal proctectomy.

terior rectus sheath, or of the aponeurosis of the external abdominal oblique should be excised. Crile and Turnbull,[2, 7] have made an outstanding contribution to the surgical management of ileostomy, calling attention to the fact that serositis of the projecting portion of the uncovered ileum always occurs, resulting in contiguous peritonitis of the intraperitoneal terminal ileum, mesenteric lymphadenitis, segmental adynamic ileus and obstruction. They noted that the ileostomy does not function properly until the mucosa has everted, has covered the serosa of the projecting ileum and has become attached to the skin—a process requiring approximately six weeks. Hence they advocated immediate "surgical maturation" of the ileostomy. To do this, the ileum is delivered two inches beyond the skin and is held in place by a suture through its terminal mesentery, the peritoneum and the posterior rectus sheath. The external layers of the terminal inch of ileum are excised, leaving only the mucosa. This mucosa is everted over the remaining projecting inch of ileum and sutured to the skin around the periphery of the stoma. A temporary ileostomy bag is immediately applied. Important details of the application and subsequent management of the ileostomy bag have been described by Turnbull.[7] The author has utilized this procedure in two instances since the presentation of the paper by Crile and Turnbull,[2] and the results have been gratifying.

The technique of creating a single-barrel colostomy following abdominoperineal proctectomy differs in two ways from that used in an ileostomy. Since a permanent colostomy bag is not used, projection of the colon beyond the skin is not necessary or desirable; and since muscular control of the stoma is desirable, it should be made through a muscle-splitting incision lateral to the rectus sheath. Buttons of skin are excised from the skin and the aponeurosis of the external abdominal oblique. The colon should be sutured to the skin around the circumference of the stoma with numerous closely placed interrupted sutures of fine catgut. This procedure, to quote Smyth,[6] "violates most of the principles of colon surgery—but it works." Actually, it fulfills the very important surgical principle of not

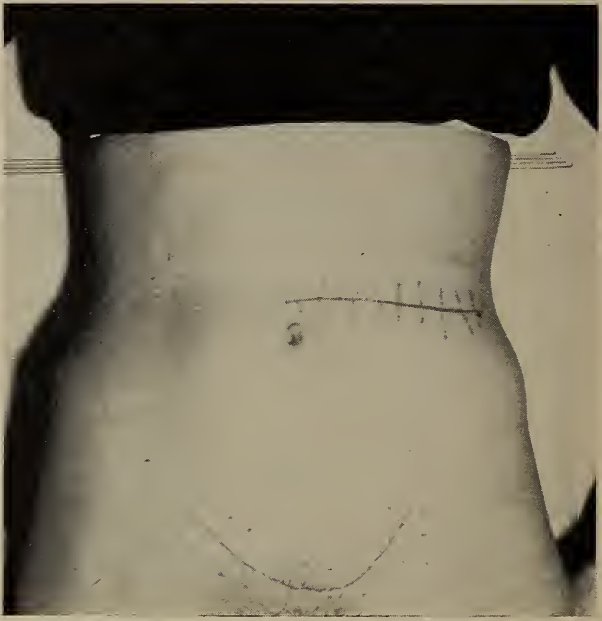

Figure 3.—Left upper transverse and Cherney incisions for total colectomy and ileoproctectomy.

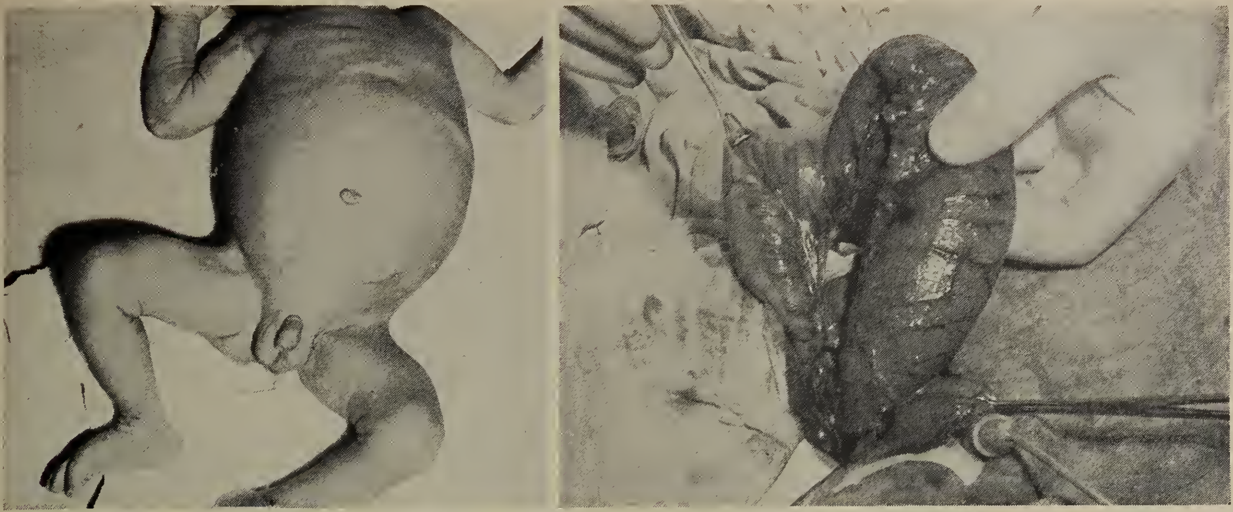

Figure 4.—Use of Cherney incision in abdominoperineal correction of congenital recto-urethral fistula and mega-sigmoid. Good exposure was obtained despite greatly enlarged sigmoid colon.

permitting naked serosa to project beyond the skin. The author has used this technique in nine instances since receiving advice from Smyth, and the resulting colostomies have been the best that he has ever achieved. The colon is pulled through the abdominal wall in the usual manner with a Payr clamp, and isolated. The oblique or Cherney incision should be sutured and completely isolated from the colostomy, preferably by rubber dam and cement. The colon, held with no tension, is divided at the level of the skin and sutured to the skin. This procedure provides a colostomy that does not retract, prolapse, or stenose.

The following abdominal incisions for operations on the colon and rectum are recommeded:

1. Right transverse incision, one centimeter above umbilicus.
   - Right colectomy.
2. Left transverse incision, two to five centimeters above umbilicus.
   - Left colectomy.
   - Transverse colectomy.
   - Total colectomy, except sigmoid colon (Figure 1).
3. Left upper transverse incision, plus either an oblique or a Cherney incision (modified to "half Cherney" incision in thin patients).
   - Total colectomy and abdominoperineal proctectomy (Figure 2).
   - Total colectomy and ileoproctostomy (Figure 3).
4. Oblique incision, or a Cherney incision.
   - Abdominoperineal proctectomy (Figure 4).
5. Button excision of skin and aponeurosis of external abdominal oblique, with muscle-splitting of internal oblique and transverse abdominus muscles (or muscle-splitting of rectus abdominus when indicated for proper fitting of ileostomy bag).
   - Ileostomy (Figures 1 and 2).
   - Colostomy.
   - Mucous fistula (Figure 1).

REFERENCES

1. Cherney, L. S.: A modified transverse incision for low abdominal operations, Surg., Gyn. and Obs., 72:92, 1941.
2. Crile, G., Jr., and Turnbull, R. B., Jr.: The mechanism and prevention of ileostomy dysfunction. Read before the American Surgical Association on April 29, 1954. In press, Ann. Surg.
3. French, A. B., Barss, T. P., Fairlie, C. S., Bengle, A. L., Jr., Jones, C. M., Linton, R. R., and Beecher, H. K.: Metabolic effects of anesthesia in man, Ann. Surg., 135:145, 1952.
4. Hardy, J. D., and Ravdin, I. S.: Some physiological aspects of surgical trauma, Ann. Surg., 135:345, 1952.
5. Moore, F. D.: Bodily changes in surgical convalescence, Ann. Surg., 137:289, 1953.
6. Smyth, C. M.: Personal communication.
7. Turnbull, Rupert B., Jr.: Management of ileostomy, Am. J. Surg., 86:617, 1953.
8. Waugh, J. M.: Personal communication.

Studies in Traumatic Amnesia

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• *Retrograde amnesia is for a period of time, usually for a fraction of a minute in simple concussion, and not loss of memory for an event. The length of time for which there is no recollection is not directly related to the duration of coma but can be for days or even weeks.*

It is characterized by inability of restoration of memory for the period in question. Any retrograde amnesia of more than a day's duration results from trauma only if the trauma is severe enough to cause prolonged coma, usually weeks. It should be under suspicion of being due pathologically to more than concussion. Careful attention should be given to the possibility of hysteria or malingering as a factor.

THERE ARE BASICALLY two kinds of amnesia. One is due to destruction of retentive patterns of memory for a category of things, as occurs in alexia, due to destruction of the major angular gyrus. In this condition the engram patterns representing the memory are destroyed so there is nothing to recall; the patient cannot even read, and he must learn all over by building new patterns in the other angular gyrus. The other basic type is amnesia of recall, in which the basic patterns are not destroyed but contact with them is lost.

In cerebral concussion, without contusion or laceration, the memory loss is of the second variety. The engram patterns are not destroyed but the patient finds it difficult to find the past events in his memory patterns. He loses memory for a period of time. In contusion or laceration there may be absolute loss of a category of memories (as in the first type) if the lesion occurs in a specific area of cortex. Thus *temporal amnesia* occurs in concussion, in senile dementia and in the fugue states of epilepsy, and *categorical amnesia* in agnosia and in hysteria. Following cerebral concussion there may be amnesia for a period of time before the injury—*retrograde amnesia.* There may also be amnesia for events subsequent to awakening from coma—*anterograde amnesia*—but the latter period is complicated by difficulty in making observations; interest and attention may be difficult or lacking due to the general mental state resulting from the blow.

Retrograde amnesia following cerebral concussion and, of course, following more severe cerebral damage, is routine. After simple concussion with unconsciousness for a fraction of a minute, the amnesia is usually for about half a minute to a minute before the blow. It is common for a man struck while crossing a street to have no recollection of leaving the curb. Often he will say something such as: "I saw a lot of cars coming. The last I remember is standing on the curb deciding to cross."

How does retrograde amnesia come about? It is not difficult to conceive of new memory patterns being disrupted when they have not had time to establish associations. It is, however, difficult to understand how a man can have retrograde amnesia of a whole day or of a week as the result of a blow on the head. It would seem, *a priori,* that such memories have had time to be ingrained and should still be present, although perhaps hard to recall.

Everything one sees, everything one perceives, ordinarily leaves a memory pattern, an engram, which is the anatomical and physiological basis of retentive memory as distinguished from memory of recall. That basic engram will remain for life unless it is anatomically destroyed. And unless it actually is destroyed as by hemorrhage, softening or neoplasm, the memory pattern is there to be recalled, if not voluntarily, at least by hypnosis or by some other technique.

Memory of events occurring during the period for which a patient has retrograde amnesia following a blow to the head is difficult, if not impossible, to restore. It is acknowledged that the memory patterns have not been destroyed by hemorrhage, thrombosis or embolism when no abnormality is noted upon neurological examination, but associations have been broken. The amnesia that is caused by simple concussion, therefore, is amnesia of recall and not gross destruction of memory patterns.

In general, the longer the period of traumatic coma the longer the period of retrograde amnesia. Yet the period of retrograde amnesia does not vary directly with the period of coma; it is usually much shorter than the coma. In simple concussion, retrograde amnesia for a period of more than five minutes is unusual. Ordinarily, retrograde amnesia of an hour would be associated with coma of a full day, and retrograde amnesia of more than a week would be related to several months of coma.

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Presented before the Section on Psychiatry and Neurology at the 83rd Annual Session of the California Medical Association, Los Angeles, May 9-13, 1954.

If long periods of retrograde amnesia—a day or more—are claimed, hysteria or malingering should be suspected; careful study should be made of the possibility of serious complication of the trauma, such as hemorrhage into the brain stem.

Reports of three illustrative cases follow:

CASE 1: A man aged 40 years was involved in an automobile accident and was unconscious five weeks in spite of good care, with tracheotomy and even exploration for subdural hemorrhage, which was not present. After regaining consciousness he was disoriented for two weeks. He then had aphasia and right homonymous hemianopia. The patient recovered from aphasia but not from hemianopia. Upon examination 11 months after the accident it was noted that the right pupil did not react to light and the left pupil reacted sluggishly. The remaining cranial nerves were normal. Thus there must have been a vascular lesion in the mesencephalon secondary to the trauma. The sixth thoracic vertebra and one wrist had been fractured. Babinski's sign was evoked on both sides.

The patient had retrograde amnesia of 20 hours. Even when his activity of the previous day was related to him he could not recall even setting out on a trip the day before the accident. His memory was poor in general, especially for dates and names, and he could not think as well as formerly. Still his recall of his past life until the day before the accident was good. Retrograde amnesia of about 20 hours was therefore accepted as a fact.

CASE 2: A man 43 years of age was unconscious for three weeks after injury in a collision.

Fourteen months after the injury he still had retrograde amnesia of three months. He could not recall having moved into a new house or having done anything else in that period. He said that memory for his entire life was hazy and his wife was constantly filling in gaps for him. Alteration of personality was noted in him. He was completely apathetic about his family, home and work. He said he just did not feel like working and he spent his time sitting about the house or at the beach. He still had assumed no responsibility for the expenses of living or even in helping his wife about the house.

The blood pressure, pulse rate, all reflexes of the body and the cranial nerves, including those serving the fundi and pupils, were completely normal. There were no complaints of dizziness or headache.

With a mental state of complete apathy, it is admittedly difficult to determine any loss of memory for the remote past. The patient would make no effort to recall and he answered vaguely all questions about current events. However, there was no question about retrograde amnesia of three months.

CASE 3: A man 33 years of age when observed was still disabled two years after injury in an automobile accident. The records in the case showed coma for four months after the injury, but the patient said he had been comatose for five months. He also claimed anterograde amnesia of seven months in addition to retrograde amnesia of twelve years. Because of these claims, a personality study was made. It was found that he had left school at the age of 14 years to work on a farm. At the age of 17, he began to work at copper mining and supported his mother and two younger siblings because his father, a chronic alcoholic, had left home. After 18 months of mining he became an apprentice painter and learned the trade. He moved about a great deal. Born in Arkansas, he lived in several cities until he moved to Arizona for a sojourn of several years in a number of different cities, then moved back to Arkansas. There he married. When he entered the armed forces he left his wife and child in Arkansas. It soon developed that he related happenings within the 12-year period for which he claimed amnesia. When this was pointed out to him, he said that when he heard part of a story he could recall the rest. He was separated from the service.

He left his wife and obtained a divorce on grounds of adultery in Arkansas in 1945, and then came to California. He married again in 1947. When he attempted to reenlist he was refused because his wife had tuberculosis. He obtained a divorce. When he was again separated from the service, he tried to remarry his second wife but she refused. He continued to fill in details of the 12-year period because it was after these events that his accident occurred. From this it was concluded that he forgot whatever it was convenient to forget and that the amnesia should not be called retrograde. Neither was it hysterical, for he readily accepted all facts given him and was completely unemotional about them. His pragmatic approach to reality is also shown by his divorcing his first wife and forgetting about her, his divorcing his second wife to enable him to enlist, and his return to her later. As he believed that a long period of amnesia would give him greater compensation than a short one, there was an element of malingering in the case.

Since the degree of retrograde amnesia is fairly proportional to the duration of coma following a blow to the head, and since retrograde amnesia may actually cover many days after weeks of coma, it must be assumed that, other things being equal, the newest memories with the fewest associations are more vulnerable than old ones. It is easily understood that memories with strong emotional value are more resistant to destruction than others. Retrograde amnesia, due simply to concussion, is therefore much like the amnesia of senile dementia or of senility in being purely temporal in character. Amnesia due to traumatic hemorrhage is like that of thrombosis, embolism or cerebral compression on a focal spot—it is categorical; a category of memories is lost. Hysterical amnesia is both temporal and categorical. The amnesias of agnosia and aphasia are purely categorical. Temporal amnesia is due to interference with association patterns and hence is amnesia of recall. The memory patterns are still present and need only to be evoked.

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Amyloidosis in Paraplegia

Correlation with Decubitus Ulcers

A. ESTIN COMARR, M.D., Long Beach

• Six patients died with amyloidosis and four patients are living with amyloidosis out of 1,000 with spinal cord injuries who were studied.

No correlation was found between Congo red retention and the length of time since injury or the site of the spinal cord lesion. However, it is felt that the longer decubitus ulcer persists, the greater is the probability of amyloidosis.

It is believed that decubitus ulcers with secondary osteomyelitis are of primary importance as etiologic factors in amyloidosis associated with spinal cord injuries, and that pyelonephritis plays a very minor secondary role.

THE OCCURRENCE of amyloid disease in patients with chronic spinal cord injury has received little mention in the literature, only three articles on the subject having appeared to date.[1, 5, 10] A total of 16 deaths due to amyloidosis occurring in patients with spinal cord injury or disease was recorded in these articles, and no correlation between the site of the spinal cord involvement and fatal outcome was noted.

The present study was undertaken in order to determine: (1) The number of deaths due to or associated with amyloidosis which occurred on the Paraplegia Service of the Veterans Administration Hospital at Long Beach, and (2) the clinical incidence of amyloidosis on the wards and the relationship of amyloidosis to the spinal level of injury and to the time interval since injury. The Congo red test was used to determine whether or not amyloidosis was present in the living patients.

Reports in the literature classify amyloidosis found in paraplegia as secondary amyloidosis.[1,5,7,10]

A review of the records of deaths at this center disclosed that amyloidosis as determined by Congo red test or necropsy was present in six of 73 deaths among 1,000 patients. Brief reports of those cases follow:

CASE 1. The patient, 25 years of age, died 57 months after injury. The level of injury was at the seventh thoracic segment and it was clinically a "complete" lesion. A Congo red test had not been done. The patient had hydronephrosis and multiple decubitus ulcers. Necropsy showed death from uremia caused by acute and chronic pyelonephritis, and decubitus ulcers of the sacrum, ischial areas and heels associated with osteomyelitis beneath the ulcers. Amyloidosis of the kidney, liver, adrenal glands, pancreas and spleen was present, as it was in cases observed by Reingold.[6]

CASE 2. The patient, aged 37 years, died 46 months after injury. The level of injury, clinically complete, was at the second thoracic segment. The Congo red test showed amyloidosis prior to death. The patient had decubitus ulcers and chronic pyelonephritis. Necropsy showed death from uremia caused by chronic pyelonephritis with renal calculi. There were decubitus ulcers of the sacrum, heels and left trochanter, and osteomyelitis beneath the ulcers. Amyloidosis was found in the spleen, liver and kidneys.

CASE 3. The patient, 43 years of age, died 212 months after injury. The lesion, at the twelfth thoracic segment, was clinically complete. The Congo red test had not been done. The patient had a chronic trochanteric decubitus ulcer. He died of uremia secondary to obstruction from an invasive squamous cell carcinoma of the bladder (the only case of bladder cancer noted among 1,000 patients). Necropsy verified the clinical diagnosis of chronic pyelonephritis, hydronephrosis and multiple decubitus ulcers. Amyloidosis was found in the kidneys, liver, adrenal glands and spleen.

CASE 4. The patient, 28 years of age, died 115 months after the onset of paraplegia, which was caused by meningitis. The level of the lesion was at the fourth thoracic segment and it was clinically complete. The patient had multiple and deep decubitus ulcers of long duration which persisted despite repeated attempts at closure. He also had chronic pyelonephritis. A Congo red test showed the presence of amyloidosis prior to transfer of the patient to a hospital closer to his home. Necropsy at the second hospital showed amyloidosis.

CASE 5. The patient, aged 21 years, died 114 months after injury. The lesion was at the tenth thoracic segment and was clinically complete. The patient had multiple decubitus ulcers of long duration. Some time after successful ischialectomy on the right, a fistula developed between the operative site and the urethra. The Congo red test showed the presence of amyloidosis two months before death.

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Submitted June 15, 1954.

Hepatomegaly and splenomegaly were noted clinically. The family refused permission for necropsy.

CASE 6. The patient, 24 years of age, died 35 months after injury, which was at the third thoracic segment and was clinically complete. The patient had a history of decubitus ulcers. Amyloidosis was verified at necropsy.

THE CONGO RED TEST ON WARD PATIENTS

The Congo red test was performed on 102 patients who were taken more or less at random but with an attempt to include patients with injuries of long standing and those who had genitourinary tract disease and/or decubitus ulcers. There were no untoward reactions following the injections. Congo red solution (Breon) was used and urine specimens were collected and examined in order to exclude urinary loss of dye.

In patients in whom no clinical evidence of amyloidosis was present, the retention of dye varied from 1 per cent to 43 per cent; in a group of 16 patients in whom amyloidosis was suspected, only four retained over 90 per cent of the dye.*

No correlation was found between Congo red retention and the length of time since injury or level of spinal cord lesion.

DISCUSSION

Amyloidosis of the kidneys, spleen, liver and adrenal glands was noted at necropsy in the present series. Involvement of these organs is in keeping with reports in the literature.[6] Pancreatic involvement was observed in one case. Amyloidosis of the intestinal tract, which Talbot[9] described and reported as causing death by starvation in a case of spinal cord injury, was not observed in the present series. The shortest time interval between injury and death with amyloidosis was reported to be 11 months.[1] The longest period of record, observed in the present series, was 212 months.

At the Paraplegia Center in Richmond, Virginia, 83 of 657 patients admitted died, and amyloidosis was present in eight of those who died.[4] In the material in the present study there were six deaths with amyloidosis among 73 fatalities and 1,000 admissions. Amyloidosis may have been present in some additional cases in which the patient died but necropsy was not done.

It is surprising that so few of the patients on the wards suspected of having amyloidosis had significant retention of the dye. All the patients in this group had pathological changes of the genitourinary tract and/or severe, long-standing decubitus ulcers. The period since injury varied from 26 to 134 months. One patient with chronically draining osteomyelitis of the spine and decubitus ulcers so severe as to require bilateral exarticulations at the hip joints, had dye retention of only 37 per cent 43 months after injury.

The period since injury in the four cases in which retention was above 90 per cent varied from 42 to 107 months. All four patients had had severe persistent decubitus ulcers since injury. One who had 90 per cent retention of the dye had a fistula between the urethra and the site of ischialectomy, like the patient in Case 5 who died. All of them excreted protein in the urine, in which globulin could be demonstrated.

As there were six patients who died with amyloidosis and four patients on the wards who had more than 90 per cent retention of Congo red solution, there were, in all, ten of 1,000 patients who were found to have amyloidosis.

The author agrees with observers who consider the triad of urinary infection, chronic osteomyelitis and decubitus ulcer as the cause of secondary amyloidosis in cases of spinal cord injury.[10] The author also agrees that it is unjustified to attribute the development of amyloidosis in spinal cord injury to pyelonephritis alone, since amyloidosis was not noted in large series of necropsies in cases of non-spinal cord lesions with chronic pyelonephritis.[5] Three amyloidotic patients, examined postmortem at this station, died of uremia, whereas in three others who also died of uremia there was no evidence of amyloidosis on necropsy.[6] In other words, if pyelonephritis is the most prominent cause of amyloidosis, as proposed by one observer,[1] why were not signs of amyloidosis observed at necropsy in all six cases? In a previous study of renal changes in paraplegia as noted in routine intravenous urography,[2] it was found that pathologic changes ranging from mild to severe were present in nearly 27 per cent of the 630 kidneys studied. Yet a diagnosis of amyloidosis was not made in any case in the group. It is, therefore, the author's impression that the chief cause of amyloidosis in patients with spinal cord injury is decubitus ulcer with its accompanying bone involvement, and that pyelonephritis plays a secondary role.

The personalities of the six deceased patients with amyloidosis and those of the four who are still alive showed, with one exception, autistic tendencies from the onset of their disability, and the ensuing behaviorism could be characterized as leading to "physiological suicide."[8] The exception was the patient who died from carcinoma of the bladder; he had no abnormal psychological pattern.

Although regression of amyloidosis has been reported,[3] the most important consideration is the prevention of amyloid formation by proper prophylactic measures. Decubitus ulcers can be prevented by adequate early nursing care and by keeping the patient's general and nutritional status at an optimum.

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*In appraising results of the Congo red test in the present series, retention of 90 per cent or more of the amount given, after elapse of one hour, was considered indicative of amyloidosis.

V. A. Hospital, Long Beach 4.

REFERENCES

1. Bowman, M. S., M.C., USN, and Redfield, E. S.: Secondary (typical) amyloidosis in quadriplegics, U. S. Armed Forces Med. J., 2:715-722, 1951.

2. Comarr, A. E.: Renal changes in paraplegia as screened by routine intravenous urography, J. Urol., 72:596-605, 1954.

3. Cracovaner, D. J.: Symposium on amyloidosis—Introduction, U. S. Armed Forces Med. J., 2:707-708, 1951.

4. Holladay, L. W.: Discussion on amyloidosis in paraplegia, Proc. Paraplegia Conf., V. A. Hospital, Long Beach, 25-27, Aug. 1953.

5. Newman, W., and Jacobsen, A. S.: Paraplegia and secondary amyloidosis, Am. J. Med., 15:216-222, 1953.

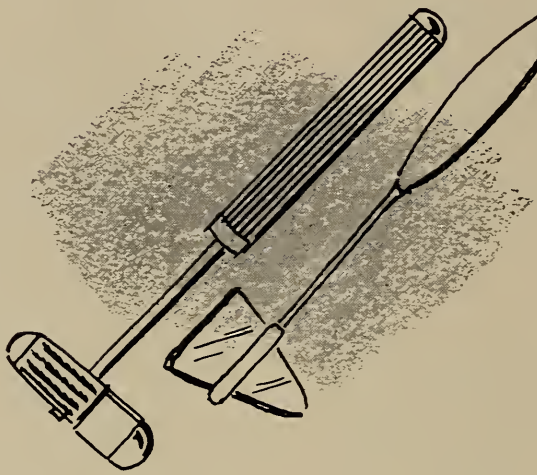
6. Reingold, I.: Mortality in paraplegia, Proc. Paraplegia Conf., V. A. Hospital, Long Beach, 25-27, Aug. 1953.

7. Rosen, S. H.: Classification and pathology of amyloidosis, U. S. Armed Forces, Med. J., 2:709-714, 1951.

8. Storment, C. T.: Psychological aspects of the paraplegic patient, Lecture delivered at Institute of Long Beach Nurses' Assoc., C.S.N.A., No. 18, May 14, 1952.

9. Talbot, H.: Discussion on amyloidosis in paraplegia, Proc. Paraplegia Conf., V. A. Hospital, Long Beach, 25-27, Aug., 1953.

10. Thompson, C. E., and Rice, M. J., Jr.: Secondary amyloidosis in spinal cord injury, Ann. Int. Med., 31:1057-1065, 1949.



WHAT'S YOUR *Diagnosis?*

CLINICAL-PATHOLOGICAL CONFERENCES

Polk Hall, Civic Auditorium, San Francisco
Monday, May 2, at 2:00 p.m.
DWIGHT L. WILBUR, M.D., San Francisco, *Moderator*

CASE 1

Clinicians: **Theodore E. Woodward, M.D., Baltimore, and Arthur L. Bloomfield, M.D., San Francisco.**

Consulting Radiologist: **L. Henry Garland, M.D., San Francisco.**

Pathologist: **Warren L. Bostick, M.D., San Francisco.**

In April 1954, a 39-year-old, white businessman entered the hospital on the seventh day of an acute febrile illness which had begun with malaise, sore throat, and an elevation of oral temperature to approximately 102° F. He also complained of nausea, vomiting, hiccuping, and epistaxis. He had developed a cough which was productive of blood-streaked sputum and had noticed frequent loose stools of normal color. The patient was hospitalized when it was discovered that the sclera of his eyes were of a slight yellow tint.

PAST HISTORY

In 1940 the patient had an acute, tender enlargement of the right epididymis of two weeks duration, followed by residual swelling. The acute swelling, with redness and tenderness, had recurred one week before his admission to the hospital. There was no history of excessive intake of alcohol or of known hepatotoxins.

PHYSICAL EXAMINATION

Temperature, 101° F., pulse 96, respirations 30, blood pressure 130/70 mm. of mercury.

Examination on entry to the hospital revealed an acutely ill patient in obvious respiratory distress. He was severely dehydrated and somewhat confused.

Head. The conjunctivas were conspicuously injected, and the sclerae moderately icteric. The nose contained a small amount of dried blood. The pharynx was intensely injected, and there was an inspissated exudate on the posterior wall. There was no rigidity of the neck.

Thorax. On percussion, the heart was not enlarged, and no murmurs or arrhythmias were detected. On examination of the chest, scattered areas of subcrepitant rales and bronchial breathing were heard.

Abdomen. A blunt hepatic margin, not tender, was felt 7 cm. below the right costal margin. The spleen was not palpable. The scrotal skin was red and indurated; the right testis was enlarged, measuring 3 x 4 x 4 cm.; most of the swelling was in the posterior-superior pole.

Rectal. Examination showed no abnormalities.

Extremities. The deep tendon reflexes were bilaterally hyperactive, and ankle clonus was present.

Laboratory. Hemoglobin 14.5 gm. per 100 cc. Leukocytes 5,000 per cu. mm. The differential count showed 41 per cent lymphocytes; some were large atypical forms and had fenestrated nuclei. The urine was amber and cloudy and contained 2+ alb. and a few leukocytes. The icterus index was 28 units; cephalin flocculation, 1+, serum alb. 2.1 gm./100 ml.; serum glob. 2.3 gm. per 100 ml. The albumin-globulin ratio was 0.9. Pharyngeal smears showed a small number of Gram-negative rods and a few Gram-positive cocci. The prothrombin concentration was 40 per cent. Agglutinations were negative in all dilutions for heterophile antibodies, typhoid, paratyphoid A and B, brucellosis and tularemia. A coccidioidin skin test was negative. Culture of the blood revealed no growth during a 14-day period.

X-Ray Examination. Roentgenograms of the chest were interpreted as showing a central pneumonia of the upper lobe of the right lung and severe bronchitis at the base of both lungs.

HOSPITAL COURSE

The clinical course was unfavorable and was marked by complete disorientation, generalized mild clonus and positive extensor plantar responses. The patient developed frank hematemesis, increasing epistaxis, and the icterus increased. Examination of the cerebrospinal fluid at this time showed it to be normal. The sputum became thick and brownish and, when cultured, yielded a heavy growth of Monilia. No discrete areas of pulmonary consolidation developed, but scattered fine rales persisted. Periumbilical ecchymosis appeared and became progressively more severe. The abdomen became distended. Three subsequent agglutination tests for leptospirosis icterohemorrhagica and leptospirosis canicola, however, were negative. The complement fixation reaction with Q-fever antigen was negative. The leukocyte count rose from 5,000 per cu. mm. at the time of admission to 22,000 per cu. mm. shortly before death, and a persistent lymphocytosis was noted throughout hospitalization.

The patient became progressively worse and developed evidence of renal insufficiency. The nonprotein nitrogen of the blood was 80 mg. per 100 ml., and the urea nitrogen was 30 mg. per 100 ml. Loss of blood, which was evidenced by bright red blood from the rectum and dark, tarry stools, was replaced by transfusions. Despite treatment, including the administration of aureomycin, penicillin, streptomycin in doses of 0.25 gm. every four hours during the last four days of his illness, and lipotropic substances, the patient became stuporous on the fifteenth day of illness and died.

* * *

CASE 2

Clinicians: **Claude E. Welch, M.D., Boston, and F. Avery Jones, M.D., London.**

Consulting Radiologist: **L. Henry Garland, M.D., San Francisco.**

Pathologist: **Sidney C. Madden, M.D., Los Angeles.**

The patient was a 63-year-old Italian male tailor. The chief complaints were hunger pains in the stomach for three years, worse for the past two months. The patient noted weakness on standing up.

PRESENT ILLNESS

About three years ago a mild burning in the epigastrium began to appear about three hours after meals. It was relieved by taking milk and food but not by soda. Although this distress had increased during the preceding two months, even at the time of observation the pain was mild. However, about two weeks before observation nausea and vomiting of undigested food began to occur 10 minutes after meals. No coffee grounds material had been seen. An x-ray study of the stomach two weeks before admission was said to be normal. During the past week stools were tarry. The patient said he was weak upon standing up. Three days before admittance the patient coughed up a small blood clot "probably from the back of the throat." A weight loss of 10 pounds during the past two months was reported.

PAST HISTORY

There was no history of gastrointestinal bleeding, operations or alcoholism. The patient had taken three straight shots of gin for pain one week before admission. No soreness of the tongue, diarrhea, constipation, jaundice, thoracic pain, night sweats or swelling of ankles had been noted. The patient smoked one to two packs of cigarettes daily plus a pipe and Italian cigars. A non-productive cough had been present for three months. At age 16 the patient had shifting joint pains and stayed three months in a hospital. He had had no known heart trouble then or since. There was no history of neurological abnormalities.

PHYSICAL EXAMINATION

The temperature was 98.6 degrees F., the pulse rate 90, the respiration 28, and the blood pressure 140 over 70 mm. of mercury. The patient was pale, and he appeared to be well developed, well nourished and not in acute distress. No spider angiomata, icterus or lymph node enlargement was noted. The tongue was coated. The lungs were clear. There were no abnormalities in the size or the sounds of the heart. Mild tenderness was noted in the right epigastrium. Upon rectal examination, tarry fecal matter was observed. The prostate was normal. No neurological abnormalities were observed.

Laboratory. On admission the hemoglobin was 9.1 gm. per 100 cc. of blood. There were 2,840,000 erythrocytes per cu. mm. and leukocytes numbered 13,200 per cu. mm.—6 per cent stab cells, 54 per cent segmented cells and 40 per cent lymphocytes. Nucleated erythrocytes were present. Pronounced hypochromia was noted. Platelets were adequate. The urine contained 3 to 5 leukocytes per high power field.

HOSPITAL COURSE

Transfusion of whole blood was started three hours after admission; despite a mild reaction 1500 ml. was given. Hemoglobin was not raised significantly at first, but by the end of the second day after admission and after another 2000 ml. of blood the hemoglobin content reached 12.6 gm. per 100 cc.

On the third day in the hospital a slightly tender mass was felt in the right epigastrium, possibly in the liver, about two fingerbreadths down. The blood pressure, which fell during the transfusion reaction to 100 over 60 mm. of mercury, stabilized there. The body temperature rose slowly to 102.8 degrees F. during the first two days and there was accompanying cough. Right lower lobe dullness and rales at both lung bases were noted on the third day and penicillin was given intramuscularly, 600,000 units twice a day. A film of the chest taken with portable x-ray equipment on the fourth day showed pulmonary congestion and some right pleural effusion. The body temperature returned to normal on the sixth day. Cephalin flocculation was four plus, and the result of a thymol flocculation test was negative.

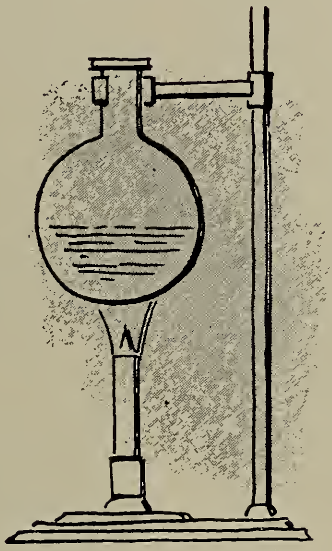
After the tarry stool on admission no evidence of bleeding was noted until bright blood appeared in the feces on the sixth day. Upon examination a prolapsed internal hemorrhoid was observed and the rectum was packed with cotton. The bleeding stopped. The hemoglobin content of the blood on the sixth day was 9.1 gm. per 100 cc. and an additional liter of whole blood was infused. The prothrombin time at this time was 54 per cent of normal. Vitamin K was given.

On the seventh day the patient had urinary burning. A catheter was inserted into the bladder and 1300 ml. of urine flowed out, clear except for bleeding near the close. Pyridium® and later Gantrisin® were given. Some bleeding through the catheter continued during the next two days. A surgical consultant advised operation if active bleeding recurred.

On the tenth day the stools again were tarry. The hemoglobin content of the circulating blood was 5.8 gm. per 100 cc. After transfusion of five units of blood in the succeeding 24 hours the hemoglobin was 9.1 gm. Ecchymoses appeared about the sites of puncture for transfusion. Leukocytes at this time numbered 7,050 per cu. mm. of blood and the platelet content was slightly diminished. Prothrombin time was 88 per cent of normal. Bleeding time was five minutes and clotting time eight minutes.

From the eleventh to the sixteenth day an average of one liter of blood daily was given and the hemoglobin was maintained between 8 and 10 gm. per 100 cc. An upper gastrointestinal series by the Hampton technique revealed no gastric or duodenal lesion although there was a suggestion of an incisura of the duodenal cap. The bleeding time and clotting time remained elevated and the plasma fibrinogen was found to be 150 mg. per 100 cc. and the serum bilirubin 1.2 mg. per 100 cc. Metamyelocytes were observed in a smear and the number of nucleated erythrocytes increased. Blood continued to appear in the urine and in the stools.

On the seventeenth day while transfusions were continuing the patient became lethargic, then comatose. The lungs appeared clear. The blood pressure was 180 over 80 mm. of mercury. Babinski and Hoffman signs and sustained ankle clonus were present on both sides. Superficial reflexes were absent. The pupils were equal in size and in reaction to light. The pulse rate increased to 150 per minute. The patient vomited a large amount of dark blood and died three hours later.



CASE REPORTS

Paroxysmal Nocturnal Hemoglobinuria

A Report of Two Cases

JULIUS BAUER, M.D., and
EUGENE H. HEIDENREICH, M.D., Los Angeles

PAROXYSMAL NOCTURNAL HEMOGLOBINURIA (PNH), also known as Marchiafava-Micheli's disease, is not a common disease. (Crosby,[1] in an excellent review, noted only 162 case reports published up to July 1953). It is, however, a disease of great general biologic interest, since it represents a unique kind of intravascular blood destruction apparently not limited to red blood corpuscles, since an abnormality of renal function seems to be a prerequisite, and since all known factors responsible for precipitated hemolysis—toxic, infectious, immunologic, genetic —can be excluded from etiologic consideration.

It is the purpose of this communication to emphasize a practical side of interest. Paroxysmal nocturnal hemoglobinuria may readily be confused with spherocytic hemolytic icterus and, hence, treated by splenectomy which is useless and even risky in this condition. This is illustrated by the first of the two cases herein reported. The second case demonstrates the seemingly paradoxical but well known phenomenon of a combination of phlebothrombosis with increased hemolysis and the beneficial effect of dicoumarin treatment.

The term nocturnal hemoglobinuria is not quite correct because hemosiderinuria rather than hemoglobinuria is a constant feature of the disease, and sleep rather than night is the essential inciting factor. The retention of carbon dioxide in the blood due to diminished pulmonary ventilation during sleep causes the increased hemolysis. The erythrocytes are at fault and susceptible to the proteolytic effect of normal plasma enzymes, especially if the acidity of the plasma rises during sleep. Erythrocytes of patients with this acquired disease are rapidly destroyed if transfused to normal persons, whereas normal erythrocytes transfused into patients with this disease survive a normal length of time.

The abnormal hemolysis in PNH takes place within the circulating blood, as contrasted with the accelerated destruction of the red corpuscles by the reticulo-endothelial system in other types of hemolytic anemia; hence, the relatively mild elevation of serum bilirubin and fecal and urinary urobilinogen, and the chief elimination of the liberated hemoglobin through the kidneys. Some of the iron derived from hemoglobin is lodged as hemosiderin in the renal epithelia and excreted in the urine where it can readily be identified by its Prussian-blue reaction in the sediment. Whereas the threshold for renal excretion of free plasma hemoglobin in normal persons has been found to be about 130 mg. per 100 ml. of plasma, the threshold may be as low as 50 mg. per 100 ml. in cases of this disease. Hence, the abnormality encountered in paroxysmal nocturnal hemoglobinuria involves the renal tubules also.

The susceptibility of the erythrocytes of patients with PNH to be destroyed by the proteolytic enzymes of normal plasma is not due to an abnormality of hemoglobin[3] but probably to a defect of the stromal protein.[1] The similar susceptibility of leukocytes and platelets in PNH suggests a similar defect of these cells.[1]

CASE REPORTS

CASE 1. A 38-year-old Caucasian man, a bartender, was admitted to the Los Angeles County Hospital on May 5, 1953, because of complaint of bloody appearing urine of three days' duration. The patient had noticed weakness and fatigability since the age of 20 but did not seek medical aid until 1941 when, because of anemia and jaundice, he was hospitalized in another city. A diagnosis of congenital hemolytic icterus was made and splenectomy was done. A report on this episode, obtained from the records of the hospital, contained no conclusive evidence of the diagnosis. It included notations, however, that the icterus index was increased to 37-52 units, that the blood was hemolyzed and that cholecystography showed a normally functioning gallbladder. Congestion and an increased amount of hemosiderin deposit were noted in the removed spleen. Since the operation the patient had led an active life, having served in the merchant marine during the war. He was a heavy drinker. On two occasions, in different hospitals, he received a blood transfusion for anemia. Except for this he was doing well until December 1952, at which time emergency operation was done for a perforated ulcer. After recovering the patient again was asymptomatic until three days before the present admission when, fol-

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From the Medical Department of the College of Medical Evangelists, the Los Angeles County Hospital, Los Angeles 33, and the Veterans Administration Hospital, Long Beach 4.

Submitted August 31, 1954.

lowing an attack of low back pain, he noticed what he took to be blood in the urine. The color persisted until the time of entry to the hospital but did not cause dysuria.

The patient was well nourished and well developed. Slight icterus of the skin and of the sclerae was noted. The blood pressure was 110/70 mm. of mercury. The temperature, pulse and respiration rate were normal. The heart was not enlarged and the lungs were clear. The abdomen was normal except for the scars of two previous surgical procedures.

The urine was coffee-colored with 2 plus reaction for protein. Granular casts were seen, but no red cells. There was a strongly positive reaction for hemoglobin. The hemoglobin content of the blood was 8.8 gm. per 100 cc. Erythrocytes numbered 2,400,000 per cu. mm., with 30 per cent of the cells reticulocytes and thrombocytes in normal number. Leukocytes numbered 9,500 per cu. mm., with segmented neutrophils 66 per cent, lymphocytes 25 per cent, monocytes 7 per cent, eosinophils 1 per cent and basophils 1 per cent. In addition, there was anisocytosis, leptocytosis and polychromasia and Howell-Jolly bodies were noted. Result of a serologic test was negative for syphilis. Direct and indirect Coomb's tests were negative for antibodies. The icteric index was 33 units, the erythrocyte fragility normal, and the bone marrow hyperplastic, showing chiefly erythroid hyperplasia. The patient had been instructed to save a sample of urine each time he voided, and it was noticed that the morning specimens were much darker in color than the afternoon specimens. The dark, morning specimens contained hemoglobin, the light amber afternoon specimens did not. The result of Ham's acid hemolysis test for paroxysmal nocturnal hemoglobinuria was positive on several occasions. The urine was also strongly positive for hemosiderin. It gave a negative reaction for urobilinogen in a dilution of 1:10. The stool, however, contained a moderately increased amount of urobilinogen—490 mg. average per 24 hours.

A transfusion of two units of washed erythrocytes was given and, following this, the patient went into remission. He was discharged with hemoglobin content 10 gm. per 100 cc. of blood, erythrocytes 3,300,000 per cu. mm. and leukocytes 10,100 per cu. mm., and remained well at least during the next monthly clinic visits.

As was pointed out previously, the renal threshold for excretion of free plasma hemoglobin is lowered in PNH. There was no evidence in the foregoing case of any other impairment of renal function. Because aminoaciduria is known to be a fine indicator of impaired tubular reabsorptive capacity in some cases, it was looked for in this case but was not found. White blood corpuscle and platelets were not affected by the disease.

Although there are a few cases on record of PNH in which the osmotic fragility of the red corpuscles was increased or spherocytosis was present, indicating a combination of spherocytic hemolytic jaundice with PNH,[1] no such findings could justify this diagnosis in the foregoing case. It is probable, therefore, that the patient had PNH from the onset and at the time splenectomy was carried out. It is important to realize that hemoglobinuria may be absent in the initial stage of the disease when only increased hemolysis and hemoglobinemia are found.

* * *

CASE 2. A 50-year-old Caucasian man was admitted to the Veterans Administration Hospital in Long Beach on January 27, 1953, because of pain and swelling of the left leg for approximately a month. The patient told of having intermittent episodes, over the previous five years, of dark urine in the morning. The condition lasted one to three days. There was also history of anemia, for which iron and vitamin B_{12} had been prescribed.

Upon physical examination the patient was noted to be pale and the sclerae slightly icteric. The blood pressure was 120/60 mm. of mercury, the pulse 80 and the temperature 100° F. The heart, lungs and abdomen were normal. A moderate edema of the legs was noted and there was slightly increased warmth, but no redness; tenderness was noted in the calf behind the knee and on the inner aspect of the thigh up to the groin on the left, and slight tenderness in the right calf.

There was hemoglobin in the urine. The number of leukocytes in the blood, determined daily, varied from 4,250 to 1,860 per cu. mm. Erythrocytes varied from 1,860,000 to 3,510,000 per cu. mm., with the proportion of reticulocytes ranging from 3.7 per cent to 10.5 per cent. Hemoglobin content varied between 7.7 gm. and 11.3 gm. per 100 cc.—the higher level having been reached after transfusion of 1,000 cc. of washed erythrocytes. A Donath-Landsteiner cold agglutinin test was negative. Bone marrow aspirate showed erythroid hyperplasia. Erythrocyte fragility was normal, and a Coomb's test negative for antibodies. There was negative reaction to a test for syphilis. The result of an acid hemolysis test for PNH was positive. Because thrombophlebitis was becoming more severe, the surgical staff advised and performed a ligation of the inferior vena cava. The patient then was given dicoumarin and improvement was noted from that point on. He was later discharged for outpatient care with a prescription of maintenance dosage of dicoumarin. Of interest to note is that the hemoglobin content, which was increased to 11.3 gm. per 100 cc. after the transfusion of washed red cells, remained at that level following the administration of dicoumarin.

Case 2 is remarkable for the combination of phlebothrombosis and beneficial effect of dicoumarin therapy in PNH. Almost 50 per cent of patients with PNH die of thromboses, chiefly abdominal or cerebral. Whether the thrombotic tendency is due to an abnormality of the readily agglutinating platelets[1] or to localized accumulation of erythrocyte stromas[3] is not certain. It is likewise uncertain whether the abdominal pain, headache or pain in the back or shoulder is due to small vascular thromboses[1] or to porphyria.[3]

The persistent leukopenia in Case 2 substantiates Crosby's opinion that leukocytes as well as erythrocytes are susceptible to premature destruction by proteolytic enzymes of normal plasma. As to the blood platelets, no morphologic abnormality was noted in the patient. There was no indication that crises of temporary bone marrow failure, with resulting increased anemia, leukopenia or pancytopenia, might have occurred in either of the two cases here reported. Such crises, however, are common in various types of genetically determined hemolytic diseases.

It stands to reason that treatment with cortisone or corticotropin (ACTH) and splenectomy in cases of PNH have no rational basis. Furthermore, it is important to know that whole blood transfusions may aggravate rather than improve the hemolysis by introduction of the donor's normal plasma which may be a hemolyzing factor for the patient's red corpuscles. Only carefully washed normal red cells deprived of admixture of plasma should be transfused.

For the exact diagnosis of this disease, two simple laboratory tests in addition to Ham's acid hemolysis test are available and should be used, particularly if no hemoglobinuria was observed at the time of examination: (1) Test for hemosiderinuria by adding ferric chloride to the urinary sediment; (2) Hegglin's diminished heat resistance test consisting of hemolysis if the blood of the patient is kept at a temperature of 37 degree C. for 6 to 24 hours.

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REFERENCES

1. Crosby, W. H.: Paroxysmal nocturnal hemoglobinuria. Relation of the clinical manifestations to underlying pathogenic mechanisms, Blood, 8:769, Sept. 1953.

2. Crosby, W. H.: Paroxysmal nocturnal hemoglobinuria: a classic description by Paul Struebing in 1882, and a bibliography of the disease, Blood, 6:270-284, March 1951.

3. Ellenhorn, M. J., Feigenbaum, L. Z., Plumhof, C., and Mettier, St. R.: Paroxysmal nocturnal hemoglobinuria with chronic hemolytic anemia, Arch. Int. Med., 87:868, June 1951.

4. McIlvanie, S. K., and Beard, M. F.: Paroxysmal nocturnal hemoglobinuria, with two new case reports, Blood, 6:936, October 1951.

Healed Dissecting Aneurysm of the Aorta

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ACCURATE DIAGNOSIS of acute dissecting aneurysm of the aorta has become commonplace, owing to increased awareness of the variable clinical syndrome. A continuing challenge is the recognition of so-called healed dissecting aneurysm, which, because of the presence of aortic systolic and/or diastolic murmurs, may mimic syphilitic aortic aneurysm or chronic rheumatic heart disease. Healing occurs in 13 to 27 per cent of all instances of dissecting aneurysms[2, 10] and results from reentry of the false channel into the aortic lumen at some point distal to the site of initial intimal rupture. There is thus no further extension, and patients may survive for long periods without symptoms, ultimately dying of congestive heart failure, rupture of the aorta or cerebral hemorrhage.

CASE REPORT

The following case illustrates the characteristic history and cardinal signs of healed dissection of the thoracic aorta.

A 60-year-old white man was admitted to hospital in May, 1954, because of recurrent paroxysmal nocturnal dyspnea of five months' duration. The illness had begun in September, 1949, with sudden, excruciating mid-back pain which radiated straight through to the epigastrium and lower sternal area. The patient said he felt extremely weak at that time but he remembered no sweating, dizziness, headache, cough, dyspnea or weakness of limbs. There were no gastrointestinal or genitourinary complaints. Medication (type not known) gave no relief from the persistent pain, which spead upward to the interscapular area and both shoulders and then slowly subsided in 13 days. The patient was not hospitalized, and no data are available regarding the cardiovascular status at that time. After that episode he was asymptomatic, except for a lifelong tendency to frequent respiratory infections, until January, 1954, when paroxysmal nocturnal dyspnea developed. The attacks occurred weekly, lasted 20 minutes to an hour and were associated with wheezing, productive cough and a sense of epigastric fullness. The patient said he had not had exertional dyspnea, angina or edema at the ankles. The nocturnal episodes became more frequent and severe, and the patient was hospitalized following a prolonged attack.

The family history was unknown to the patient. Past history was negative except for chronic bronchitis, diagnosed in 1924, and a tendency toward frequent "chest colds." Right mastoidectomy had been performed in 1934. Syphilis was denied by name and manifestations, as was antisyphilitic therapy.

Physical examination. The temperature was 98.4° F. (oral); pulse, 120, regular; respirations, 24 per minute; blood pressure, 230/110 mm. of mercury and 210/106 mm., right and left arm, respectively. The patient was slightly dyspneic and orthopneic, but not acutely ill. The neck and superficial forehead veins were distended. A mastoidectomy scar on the right, bilateral arcus senilis, retinal arteriolo-

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Submitted September 16, 1954.

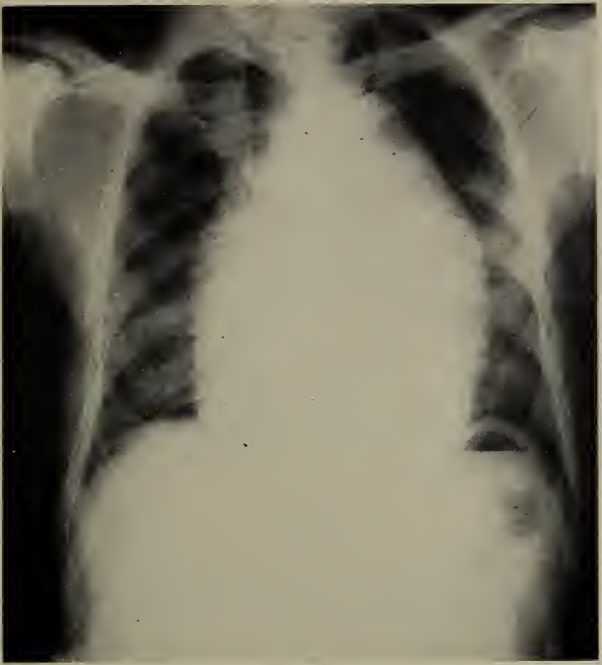

Figure 1.—Posteroanterior view of chest demonstrating (1) pronounced dilation of entire thoracic aorta, (2) widened shadow of innominate artery, (3) "double density" of aortic knob contrasted against lesser density of the dissecting aneurysm, and (4) intimal calcification visible at level of left fourth rib anteriorly.

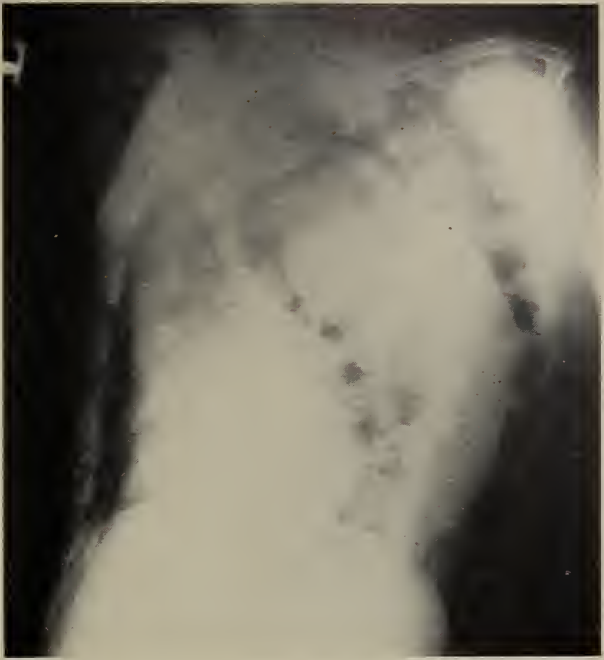

Figure 2.—Oblique view with Bucky technique showing diffuse dilation of entire thoracic aorta.

sclerosis and edentulous gums were noted. The trachea was displaced to the right; there was no tug. The chest was emphysematous; expansion was limited but equal. The lungs were hyper-resonant and free of rales, but the expiratory breath sounds were high-pitched and prolonged. The upper sternum and attached ribs pulsated vigorously during cardiac systole. The apex beat was not visible or palpable, and the area of cardiac dullness was masked by pulmonary emphysema. Parasternal dullness was noted in the second and third intercostal spaces bilaterally. A grade 4 (1 to 6 scale), harsh, aortic diastolic murmur obliterated the second aortic sound and was transmitted predominantly down the right sternal border, as well as over the precordium. Short, soft, nontransmitted systolic murmurs were heard over the aortic and mitral areas. Thrill, gallop and apical diastolic murmur were not present. Peripheral pulses were collapsing in character; Duroziez's, Traube's and de Musset's signs were present. The right carotid, brachial and radial pulses were more forceful than the left. A sharp and tender liver edge was felt five fingerbreadths below the right costal margin. There was moderate clubbing of the fingers and toes and the nail beds were dusky.

Laboratory. Results of laboratory tests were as follows: Hemoglobin, 15.3 gm. per 100 cc. of blood; packed cell volume, 42.5 per cent of whole blood; leukocytes, 8,200 per cu. mm. with normal differential; Mazzini test for syphilis, negative; nonprotein nitrogen content, 28 mg. per 100 cc. Urinalysis: specific gravity, 1.006; albumin, 4 plus; reaction for sugar, negative; rare erythrocytes and leukocytes and granular casts per high-power field in sediment. Alpha hemolytic streptococci grew on a culture of sputum. An electrocardiogram was characteristic of left ventricular hypertrophy. X-ray films of the chest, including a right oblique view with Bucky technique, are shown in Figures 1 and 2. Vital capacity was 1.4 liters. Arm-to-tongue circulation time was 30 seconds (decholin).

The patient was treated with digitalis, penicillin, potassium iodide and bronchodilators and was put on a diet restricting salt intake to 1 gm. Orthopnea and dyspnea subsided. The liver decreased in size and was no longer tender. There was a four-pound loss of body weight. Blood pressure stabilized at levels averaging 186/90 mm. and 168/88 mm., right and left arm, respectively. Arm-to-tongue circulation time four days after admission was 20 seconds. The patient was discharged on maintenance dosage of digitalis, a 2-gm. salt diet, and potassium iodide. He remained asymptomatic thereafter except for "chest colds."

The final diagnoses were: (1) Healed dissecting aneurysm of thoracic aorta with aortic insufficiency. (2) Hypertensive cardiovascular disease. (3) Myocardial insufficiency, secondary to 1 and 2. (4) Pulmonary emphysema and chronic bronchitis.

DISCUSSION

Peacock,[7] in 1863, was the first to emphasize that dissecting aortic aneurysm is not invariably fatal within a short period: "The patient may, however, rally from the first effects of the shock and survive for some months or years, and die ultimately from the cardiac disease and symptoms of obstruction to the circulation occasioned by the formation of the aneurysm or from secondary disease of other organs." Among the 79 cases of healed dissecting aneurysm collected by Shennan, the causes of death were heart failure in 34, rupture of the aorta in 16, chronic nephritis in eight, and cerebral hemorrhage or thrombosis in seven. Excluding the cases in which the patient died of aortic rupture or unrelated diseases, the type and incidence of end stages closely parallel those of hypertensive cardiovascular disease. Occasionally the course of the heart failure is unusually rapid.[8]

The earliest clinical descriptions of murmurs associated with healed dissecting aneurysms generally mentioned variable systolic murmurs at the base. Letulle[5] reported the first instance of aortic insufficiency resulting from this condition. Aortic diastolic murmurs were described in 41 of 165 cases of both acute and chronic thoracic aorta dissection collected from the literature. In most of these the medial dissection had extended proximally to the aortic valves or to within 2 or 3 centimeters at the most. The specific mechanism whereby insufficiency of the valves is produced is thought to be dilatation or distortion of the aortic ring.[3]

There are no diagnostic clinical signs of healed dissecting aneurysm. Patients in whom aortic insufficiency and heart failure develop from this cause, but who have no previous history of severe thoracic pain, may be diagnosed as having syphilitic cardiovascular disease or chronic rheumatic heart disease.[3, 6] Considerable assistance can be obtained from a number of radiologic signs, of which the following are the most reliable: (1) double density of the aortic shadow resulting from a dense inner shadow in the region of the aortic knob superimposed on the less dense shadow of the dissecting aneurysm;[4] (2) widened shadow of the innominate artery, said to be pathognomonic;[11] (3) dense intimal calcification visible well within the lateral border of the aortic shadow;[1] and (4) widening of the entire thoracic aorta as shown by laminagraphic techniques.[9] Signs 1, 2 and 4 (as here enumerated) are clearly shown in Figures 1 and 2; sign 3 is not convincingly shown, since the aortic wall lateral to the linear streaks was only 8 mm. thick.

In the absence of autopsy confirmation, an irrefutable diagnosis of healed dissecting aneurysm cannot be made. However, the following constellation constitutes a well-defined entity: (1) history of unusually severe chest or back pain of hours' or days' duration, followed in several months or years by the onset of congestive heart failure; (2) presence of aortic insufficiency without stenosis, absence of significant mitral murmurs, negative serological tests for syphilis; (3) clinical or x-ray signs of aortic dilation or aneurysm, with any of the first three specific radiologic signs listed above.

SUMMARY

A case is described in which the clinical course, physical findings and radiologic data are characteristic of healed dissecting aneurysm involving the entire thoracic aorta. It is emphasized that 50 per cent of such patients die of congestive failure and that 25 per cent have aortic insufficiency indistinguishable clinically from that of syphilitic aortitis or chronic rheumatic heart disease.

REFERENCES

1. Canigiani, T.: Zur Röntgendiagnostik des Aneurysma dissecans der Brustaorta, Fortschr. a. d. Geb. d. Röntgenstrahlen. 45:416, 1932.

2. Gore, I., and Seiwert, V. J.: Dissecting aneurysm of the aorta; pathological aspects; an analysis of 85 fatal cases, Arch. Path., 53:121, 1952.

3. Gouley, B. A., and Anderson, E.: Chronic dissecting aneurysm of the aorta, simulating syphilitic cardiovascular disease; notes on the associated aortic murmurs, Ann. Int. Med., 14:978, 1940.

4. Kienböck, R., and Weiss, K.: Ein Fall von Aneurysma dissecans der Brustaorta, Fortschr. a. d. Geb. d. Röntgenstrahlen, 44:211, 1931.

5. Letulle, M. M.: Anéurisme disséquant étendu à la totalité de l'aorte et spontanement guéri. Signes d'insuffisance aortique avec integrité parfaite des valvules sigmoides, Bull. et mém. Soc. Méd. d. hôp. de Paris, 22:1045, 1905.

6. Levine, E. A., Stein, M., Gordon, G., and Mitchell, N.: Chronic dissecting aneurysm of the aorta resembling chronic rheumatic heart disease, N.E.J.M., 244:902, 1951.

7. Peacock, T. B.: Report on cases of dissecting aneurysm, Tr. Path. Soc. London, 14:87, 1863.

8. Peery, T. M.: "Healed" dissecting aneurysm of the aorta, Arch. Path., 21:647, 1936.

9. Scott, W. G., and Bottom, D. S.: Laminagraphic studies of the aorta; their advantages and limitations, Am. J. Roentgenol., 51:18, 1944.

10. Shennan, T.: Dissecting aneurysms, Med. Research Council, Special Report Series No. 193, London, His Majesty's Stationery Office, 1934.

11. Wood, F. C., Pendergrass, E. P., and Ostrum, H. W.: Dissecting aneurysm of the aorta, with special reference to its roentgenographic features, Am. J. Roentgenol., 28:437, 1932.

California MEDICINE

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EDITORIAL

Poliomyelitis Immunization

Final evaluation of the field study of immunization against poliomyelitis with Salk vaccine nears completion. The original pilot studies with this vaccine were promising, there have been no adverse effects in the field study, and although there have been no premature announcements, the final analysis of this mass experiment is awaited with general optimism. Whether or not this killed virus vaccine should now be generally employed depends on the results of careful studies which, as we go to press, it appears will be reported soon by Dr. Thomas Francis, Jr.

An answer to this problem might have gone more slowly and perhaps more surely if it were extended for many years of painstaking study but the very urgency of the problem of poliomyelitis protection demanded a speedy answer. Some 440,000 children received the vaccine, a control group of 221,000 received placebo injections, and more than 1,000,000 children in the test areas were observed carefully as untreated controls. Comparisons within this experimental group for antibody levels and clinical attack rates will afford the working basis for further application of the vaccine.

No great number of methods for active immunization against other diseases have proved to be very effective. Smallpox, diphtheria, tetanus, whooping cough and yellow fever, have been thus controlled but there have been many failures and new successes have been laboriously achieved. Most of the previous mass experiments were activated by zealots who had to oppose scientific apathy and pessimism and sometimes public hostility. The present mass immunization experiment is the result of coordinated scientific effort combined with extraordinary public participation.

It is unnecessary to recount all the scientific observations which led up to the present method. Virus research contributed the nature of the pathogen, determined its effect in experimental animals, demonstrated the existence of three distinct strains of virus, and found that antibodies in the general population indicate experience with exposure to these viruses. Methods of tissue culture propagation have afforded an improved tool for study and finally a means for production of large amounts of relatively pure virus for use in vaccine.

The relatively recent proof that a period of viremia is a prelude to invasion of the central nervous system demonstrated that the virus is not an obligate parasite of the nerve cells and pointed to the possibility that before it invades the nervous system the virus might be vulnerable to systemic immune bodies.

The identification of antibodies against the three strains of virus in gamma globulin prepared from the population at large was an interesting by-path in the study of protection by systemic antibodies. Originally the use of gamma globulin was designed to test the hypothesis of protection by means of these antibodies. Early evidence of partial success caused the experimental nature of this study to be abandoned and led to the widespread and uncritical use of this product as the only agent which was known to protect against paralytic poliomyelitis. Unfortunately the use of this product as generally employed failed to introduce antibodies sufficiently early after exposure, especially in family contact where the problem was often one of simultaneous exposure. It thus failed to afford much information on the very point at issue. Almost unquestionably the value of gamma globulin is limited to those instances in which, especially in mass experiments and not in household contact, protection can be afforded either before exposure or at least very early after exposure.

Analysis of the field trial with Salk vaccine will consider the relative incidence of disease in vaccinated and control groups. This comparison will be of great importance but the low incidence of naturally occurring infection can cause the comparative figures to be too small for a completely definitive opinion. Some failures of protection are encountered in the very best methods of immunization, for human beings are poor experimental animals, given to unpredictable and capricious variation. This suggests that the present field experiment should not terminate critical observation of the result of vaccination.

This study will also incorporate careful investigation of the rise in immune substances in the serum after vaccination. It seems logical to suppose that a rise in immune bodies should lead to protection from clinical attack but it may require several years of further experience to demonstrate that this is true. In previously successful methods for active immunization proof of clinical protection was not a matter of logical deduction or of laboratory data, but of accumulated statistical experience. The Francis report on the numerical study of the field trial must be succeeded by observation of the results in immunization of the population at large. It is important to recognize that, as was so ably pointed out by Magill in "The Immunologist and Evil Spirits" (Thomas P. Magill, Journal of Immunology, Vol. 74, No. 1, 1955), clinical resistance does not always parallel serum immunity.

It has been necessary to plan future activity in the expected event that the results reported by Francis are favorable. The National Foundation for Infantile Paralysis has stock-piled a supply of vaccine to be supplied free to children of the first and second grade and for all those who served for unvaccinated controls in the field trial. (In the sense of a purely scientific experiment it may be unfortunate that these controls should be lost for future comparison with vaccinated children. Humanitarian considerations make it unthinkable, however, that a volunteer control group should remain at risk if prophylaxis seems convincingly effective.) This vaccine will be promptly available and methods of administration will be planned by state and local health authorities.

Commercial laboratories which have provided the experimental vaccine are preparing further vaccine which will be available if the final report is favorable. The supply of this vaccine, which may be used by the physician as he chooses, will at least equal that provided by the Foundation and may be several times as great. There is every reason to believe that public demand for an effective vaccine will be tremendous and that available supplies may not be equal to this demand. Hence, deciding just how this additional supply shall be employed will necessitate the best judgment on the part of the physician.

The vaccine supplied by the Foundation will be given to children during the years of greatest risk, ages six and seven. It would seem appropriate at first to use the additional vaccine for children just above and just below this age group, perhaps from four to fourteen years, in order to protect areas of greatest risk and quickly to secure additional evidence regarding effectiveness. Additional uses, as in early pregnancy, would be at the discretion of the individual physician.

Vaccination will consist of three injections, the first two one week apart and the third four weeks later. Immunization should be completed as far as possible in advance of expected annual epidemics so as to afford maximum protection before probable exposure. This would indicate early employment in the more southerly regions.

The year 1954 witnessed the greatest cooperative venture in scientific effort and public participation in the history of preventive medicine. Whatever the content of the Francis report, final evaluation must await several years' experience. The further demand for immunization should proceed from the public—as pretty obviously it will—and it would seem unwise to propose that everyone must be vaccinated as promptly as possible. There will probably be improvements in the vaccine as time goes on. Other vaccines of entirely different nature may prove to be better agents. Live vaccines, devoid of paralytic properties, which may be administered by the natural route of feeding are under study by such investigators as Koprowski and Cox, Enders and Sabin and others and may eventually prove to afford better and more prolonged immunity. The necessity for booster doses and the frequency of their administration can only be developed as time goes on. We can only hope that the present vaccine may be a good answer, even if not the perfect answer, to the problem of poliomyelitis immunization.

Gamma globulin is still available for use as indicated. Its best use is for prophylaxis and modification of measles and for protection against infectious hepatitis. The use of this product for prevention of poliomyelitis is of very limited value; it is practically worthless in its usual employment in household exposure, especially when given in relatively small amounts. The cost of the recommended dosage of 0.2 cc. per pound of body weight is out of all proportion to its expected effectiveness except under most unusual circumstances.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

Tentative Draft: Minutes of the 410th Meeting of the Council of the California Medical Association, St. Francis Hotel, San Francisco, February 5, 1955.

The meeting was called to order by Chairman Lum in Room 210 of the St. Francis Hotel, San Francisco, at 9:30 a.m., Saturday, February 5, 1955.

Roll Call:

Present were President Morrison, President-elect Shipman, Vice-Speaker Bailey, Secretary Daniels, Editor Wilbur and Councilors West, Wheeler, Loos, Sampson, Pearman, Randel, Ray, Sherman, Lum, Bostick, Frees, Carey, Kirchner, Reynolds, and Varden.

Absent for cause, Speaker Charnock, Councilors Teall and Heron.

A quorum present and acting.

Present by invitation were Messrs. Hunton and Gillette of C.M.A. staff; legal counsel Howard Hassard; Messrs. Ben H. Read and Eugene Salisbury of the Public Health League of California; Dr. Dan O. Kilroy of the legislative committee; Mr. K. L. Hamman of California Physicians' Service; Mr. Rollen Waterson, health insurance consultant; county society executive secretaries Bannister of Orange, Donovan of Santa Clara, Foster of Sacramento, Geisert of Kern, Jensen of Fresno, Marvin of Riverside, Neick of San Francisco, Nute of San Diego, Thompson of San Joaquin and Wood of San Mateo; Drs. James C. Doyle of the legislative committee and Carl Hadley and Thomas J. Rossitto, county society secretaries of San Bernardino and Placer-Nevada-Sierra, respectively.

Present during a part of the meeting were Drs. Bert L. Halter and E. Francis Egleston of San Francisco County.

1. *Minutes for Approval:*

(a) On motion duly made and seconded, minutes of the 409th Council meeting, held December 11, 1954, were approved.

(b) On motion duly made and seconded, minutes of the 246th Executive Committee meeting, held December 11, 1954, were approved.

(c) On motion duly made and seconded, and after deletion of two items from the original draft, for later discussion, minutes of the 247th Executive Committee meeting, held January 13, 1955, were approved.

2. *Membership:*

(a) A report of membership as of February 4, 1955, was received and ordered filed.

(b) On motion duly made and seconded in each instance, ten (10) applicants were elected to Retired Membership. These were:

Arthur W. Allum, A. Lincoln Desser, Roy E. Fallas, A. F. J. Hansen, E. J. Rowan, John M. Schmoele, H. W. Vollmer, Los Angeles County; Trueman E. Bishop, San Diego County; George W. Hartman, Olav Kaarboe, San Francisco County.

(c) On motion duly made and seconded in each instance, 12 applicants were elected to Associate

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ARLO A. MORRISON . . . . President
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DWIGHT L. WILBUR, M.D. . . . . Editor
JOHN HUNTON . . . . Executive Secretary
General Office, 450 Sutter Street, San Francisco 8
ED CLANCY . . . . Director of Public Relations
Southern California Office:
417 South Hill Street, Los Angeles 13 • Phone MAdison 6-0683

Membership. These were: Theodore Carlton, Thad W. Penn, Dean C. Varney, Alameda-Contra Costa County; Donald Casad, Jane Jameson, Fresno County; Harry Kopman, W. J. Menke, Jr., R. V. Miller, Jr., Robert Stivelman, Leonard A. West, Los Angeles County; Paul W. Frame, Sr., Sacramento County; James F. Terrell, San Diego County.

(d) On motion duly made and seconded, reductions in dues were voted for 16 members for reasons of postgraduate study or illness.

(e) On motion duly made and seconded, eight members whose 1954 dues had been received since December 11, 1954, were voted reinstatement as active members.

3. *Financial:*

A report of bank balances, etc., as of February 4, 1955, was received and ordered filed.

4. *Legal Department:*

Mr. Hassard reported on several proposed legislative bills now before the State Legislature and stated that additional reports would be made when additional bills are available from the State Printer.

Mr. Hassard also reported on the status of litigation in San Diego County. On motion duly made and seconded, it was voted to reaffirm the agreement originally made with the San Diego County Medical Society relative to the expenses of this litigation.

Mr. Hassard stated that the California Physicians' Benevolence Fund has been incorporated as a nonprofit corporation and that amendments in the C.M.A. Constitution and By-Laws to effect this change from the present setup would be presented to the 1955 House of Delegates.

5. *Public Policy and Legislation:*

Dr. Dan O. Kilroy reported that the State Personnel Board had developed an examination for physicians seeking state employment. Such examination might be construed as duplicating the examining procedure of the State Board of Medical Examiners. On motion duly made and seconded, it was voted to urge the elimination of such examination by the State Personnel Board of physicians regularly licensed by the Board of Medical Examiners.

Dr. Kilroy also discussed a few legislative items and pointed out that the acceptance of the report of the Committee on Mental Health by the Council might be construed as binding the Council to approve legislative proposals reached by this committee in meeting with other groups. It was agreed that such construction was not warranted in the Council's acceptance of the committee's report.

Mr. Read reported that close to 6,000 bills, resolutions, etc., had been introduced in the opening session of the Legislature and that a close watch was being maintained on 453 measures in 39 categories. He stated that 58 bills had been introduced on the subject of pharmacy alone, 13 of them relating to dangerous drugs.

6. *State Department of Public Health:*

Dr. Malcolm H. Merrill, State Director of Public Health, reported on problems of sanitation arising in Los Angeles and San Diego counties and stated that a preliminary report is under preparation on the subject of air pollution. This report will point out the areas where further study of this problem is needed.

Dr. Merrill also reported that agreement had been reached with the statewide advisory committee on poliomyelitis that gamma globulin apparently has a very limited use in polio control but that the supplies available would be distributed as was done last year so long as they last. As to polio vaccine, Dr. Merrill reported that sufficient supplies for 9,000,000 inoculations were available and that the county health units would be urged to set up inoculation programs for first and second grade school children, to be activated if current studies show that the vaccine has value for prevention and if the National Institutes of Health license its production. If the vaccine is declared to be effective in polio prevention, the National Foundation for Infantile Paralysis will withdraw from the field of production and distribution and will leave this product in the pharmaceutical field.

Dr. Merrill reported on several other items, among them the proposal by the State Department of Public Health that it discontinue the gratis distribution of drugs for the treatment of syphilis. On motion duly made and seconded, it was voted to approve this proposal.

7. *Committee on Public Health and Public Agencies:*

Dr. Francis E. West, chairman of the Committee on Public Health and Public Agencies, stated that if the new polio vaccine proved beneficial, there would be an obligation on the county medical societies to work with local health departments in planning and executing inoculation programs.

Dr. West also discussed a proposal of the State Department of Public Health for establishment of a chronic disease epidemiology center and the inauguration of chronic disease studies. It was pointed out that a charitable foundation had agreed to finance this program for three years and that public funds would be needed to carry on this work if it were proposed to continue the program after the initial three-year period.

In response to questions, Dr. Merrill stated that the purpose of this study would be to collect data on heart disease, cancer, diabetes and other chronic diseases and that the epidemiology center would be for study purposes only, not for treatment. He stated that his department did not expect the Council at this time to agree to the provision of state funds after the charitable foundation funds have been exhausted. He stated that his department wanted the Council to know what was being done in this direction and asked that the Council make known its disapproval of this project if it were disapproved. On motion duly made and seconded, it was voted to refer this proposal to a new subcommittee which should report back to the Council at a later meeting.

8. *California Medicine:*

On motion duly made and seconded, it was voted to appoint Dr. Victor Richards as a member of the Editorial Board of CALIFORNIA MEDICINE, to represent surgery, succeeding Dr. Frederick L. Reichert, resigned.

9. *Trustees of California Physicians' Service:*

On motion duly made and seconded, it was voted to approve the Chairman's selection of Dr. Henry A. Randel as a Council representative on the Board of Trustees of California Physicians' Service.

10. *Medical Services Commission:*

Dr. Hollis L. Carey, chairman of the Medical Services Commission, discussed deductible types of medical cost insurance and suggested that further study be given this form of coverage. Dr. Carey also discussed the possibility of providing medical care for the medically indigent; one member of the commission has been authorized to continue his studies on this subject, with the possibility of experimenting in smaller counties through the facilities of California Physicians' Service.

11. *Public Relations:*

Mr. Glenn Gillette reported on the progress of the distribution of personal messages by physicians to their patients. A total of more than 1,200,000 such messages have been sent to members at their request.

12. *Rollen Waterson Associates:*

Mr. Rollen Waterson reported that his organization was working with county societies on a variety of approaches to the problems of prepaid medical cost insurance and that 16 counties to date had approved the inauguration of a $6,000 income ceiling for California Physicians' Service.

Mr. Waterson also stated that he anticipated a reduced demand for the services of his organization and that, with Council approval, he would plan to accept other assignments not in conflict with the Association's program, and to reduce his fees to the Association.

Dr. Sherman reported that the San Francisco Medical Society by a three-to-one vote of its members had requested a $6,000 C.P.S. ceiling but that a committee of the society had asked reconsideration so as to make it possible to secure a higher level of fees for certain visits. Dr. Sherman offered a resolution reading as follows:

"The Council of the California Medical Association requests the Board of Trustees of California Physicians' Service to take the steps needed to ascertain those geographical areas, if any, in this state in which the prevailing fees customarily charged noncharity patients for follow-up office, routine hospital and home visits are higher than the fees for such calls or visits in the C.P.S. $4,200-$6,000 fee schedule, and after determining that the prevailing fees for such calls or visits are higher in any given area, then to adjust the $4,200-$6,000 fee schedule, at the request of the county society, as applied in the area accordingly, provided that at present follow-up office calls shall not exceed $5, hospital calls $5 and home visits $7."

After discussion, on motion duly made and seconded, it was voted to refer the proposed resolution to the appropriate subcommittee of the Medical Services Commission.

13. *California Physicians' Service:*

Mr. K. L. Hamman reported a January 31 membership of C.P.S. of 681,551, a gain of 63,410 over the preceding year. Physician membership at the same date was 12,123, a gain of 729 in one year. Mr. Hamman also reported that claims review committees are operating in 18 counties; the Veterans Administration program, he said, is handling 25 per cent of all VA outpatient care through private sources in the country. Efforts have been made in some quarters, he stated, to reduce this coverage.

In response to a question, Mr. Hamman stated that two contracts, both in Santa Clara County, had been written under the $6,000 ceiling.

14. *Committee on Scientific Work:*

Dr. Daniels, chairman of the Committee on Scientific Work, presented a list of guest speakers for the 1955 Annual Session and sought approval of their scheduled appearances. On motion duly made and seconded it was voted that the Council officially invite those on this list.

15. *Committee on Rural Health:*

A letter from Dr. Henry A. Randel, chairman of the Committee on Rural Health was read, asking that in view of the enlarged scope of the committee's work the official name be changed to Committee on Rural and Community Health. On motion duly made and seconded it was voted to approve this change of name.

16. *Tuberculosis Survey:*

Dr. Reynolds presented the final report of a committee named some months earlier to review, with others, the tuberculosis morbidity and care situation in Solano County. He was thanked for his work in this field.

17. *Los Angeles County Physicians' Aid Association:*

On motion duly made and seconded it was voted to allow the Los Angeles County Physicians' Aid Association to use the Association's membership list in publicizing the work of the organization.

18. *Assistance to County Societies:*

On motion duly made and seconded it was voted to cooperate for an additional four months, starting January 9, 1955, with the Los Angeles County Medical Association in producing a local television program.

19. *Alternate Delegates to A.M.A.:*

On motion duly made and seconded it was voted to continue the policy of meeting expenses of Alternate Delegates to the American Medical Association in attending one A.M.A. meeting each year.

Time and Place of Next Council Meeting:

The Chairman announced that the next meeting of the Council would be held in Los Angeles around the latter part of March or early April.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 4:55 p.m.

DONALD D. LUM, M.D., *Chairman*
ALBERT C. DANIELS, M.D., *Secretary*

In Memoriam

BLACKSHAW, JOSEPH B. Died in Sebastopol, February 17, 1955, aged 76. Graduate of Hahnemann Medical College of the Pacific, San Francisco, 1911. Licensed in California in 1911. Doctor Blackshaw was a retired member of the Sonoma County Medical Society, the California Medical Association, and an associate member of the American Medical Association.

✣

EARL, HARRY D. Died in Yucaipa, February 15, 1955, aged 73. Graduate of Keokuk Medical College, College of Physicians and Surgeons, Iowa, 1906. Licensed in California in 1922. Doctor Earl was a retired member of the Los Angeles County Medical Association, the California Medical Association, and an associate member of the American Medical Association.

✣

FOLTZ, CLARENCE B. Died in Vallejo, January 23, 1955, of acute myocardial infarction, aged 69. Graduate of Creighton University School of Medicine, Omaha, Nebraska, 1914. Licensed in California in 1918. Doctor Foltz was a member of the Alameda-Contra Costa Medical Association.

✣

HITCHCOCK, HAROLD H. Died in Oakland, February 6, 1955, aged 61, of coronary occlusion with myocardial infarction. Graduate of the University of California Medical School, Berkeley-San Francisco, 1918. Licensed in California in 1918. Doctor Hitchcock was a member of the Alameda-Contra Costa Medical Association.

✣

LIFSCHUTZ, JACOB. Died in Los Angeles, February 4, 1955, aged 65. Graduate of Rush Medical College, Chicago, Illinois, 1916. Licensed in California in 1943. Doctor Lifschutz was a member of the Los Angeles County Medical Association.

✣

MELNIK, MORRIS. Died in Boston, Massachusetts, January 24, 1955, aged 46, of coronary artery disease following surgery. Graduate of the University of Michigan Medical School, Ann Arbor, 1932. Licensed in California in 1933. Doctor Melnik was a member of the Los Angeles County Medical Association.

MORTENSEN, WILLIAM S. Died in Los Angeles, February 10, 1955, aged 75, of coronary thrombosis. Graduate of Rush Medical College, Chicago, Illinois, 1903. Licensed in California in 1906. Doctor Mortensen was a retired member of the Los Angeles County Medical Association, the California Medical Association, and an associate member of the American Medical Association.

✣

PAINE, NORMAN C. Died in Glendale, February 12, 1955, aged 62, of coronary artery disease. Graduate of Rush Medical College, Chicago, Illinois, 1919. Licensed in California in 1921. Doctor Paine was a member of the Los Angeles County Medical Association.

✣

ROGERS, JOHN D. Died December 27, 1954, aged 62, of carcinoma. Graduate of the State University of Iowa College of Medicine, Iowa City, 1920. Licensed in California in 1921. Doctor Rogers was a member of the Los Angeles County Medical Association.

✣

SHELTON, E. KOST. Died in Westwood, February 22, 1955, aged 67. Graduate of the University of Colorado School of Medicine, Denver, 1911. Licensed in California in 1929. Doctor Shelton was a member of the Los Angeles County Medical Association.

✣

SHOLL, HARRY E. Died in San Francisco, December 8, 1954, of carcinoma of the colon. Graduate of the Hahnemann Medical College and Hospital, Chicago, Illinois, 1906. Licensed in California in 1930. Doctor Sholl was a member of the Solano County Medical Society.

✣

STOLL, ARTHUR H. Died in Oxnard, January 27, 1955, aged 72. Graduate of Northwestern University Medical School, Chicago, Illinois, 1906. Licensed in California in 1923. Doctor Stoll was a retired member of the Ventura County Medical Society, the California Medical Association, and an associate member of the American Medical Association.

WOMAN'S AUXILIARY

TO THE CALIFORNIA MEDICAL ASSOCIATION

DISTRICT COUNCILORS ARE MEMBERS OF THE BOARD

The councilor districts of the Auxiliary are identical in geographical scope with those of the California Medical Association. District Councilors are nominated from the floor of the Auxiliary convention by voting delegates from their respective districts, and serve for two years, or until their successors assume office.

The district Councilor serves as an advisor to the auxiliaries in her district; she visits each of the organized auxiliaries at least once each year, and she also assists in organizing new component auxiliaries where none exist. District Councilors are members of the Board of Directors of the State Auxiliary.

Serving as district councilors this year are: First District—Mrs. John L. Gallagher, San Diego. Second District—Mrs. John J. Montanus, Santa Ana. Third District—Mrs. Newell Jones, Encino. Fourth District—Mrs. Richard L. French, North Hollywood. Fifth District—Mrs. Alexander Cruden, Saticoy. Sixth District—Mrs. Kendall B. Holmes, Fresno. Seventh District—Mrs. R. Stanley Kneeshaw, San Jose. Eighth District—Mrs. Clarence Nelson, San Francisco. Ninth District—Mrs. Harry Ford, Berkeley. Tenth District—Mrs. Irwin Shankman, Vallejo. Eleventh District—Mrs. O. F. Lang, Grass Valley.

* * *

PUBLIC RELATIONS MANUAL PAYS TRIBUTE TO AUXILIARY

One of the finest Public Relations manuals ever published is the one prepared last fall by the Department of Public Relations of the American Medical Association. It consists of 112 pages filled with practical, usable information on how county medical societies can win added respect and renewed confidence of the people in their communities.

The manual gives detailed information about such PR projects as emergency call systems, mediation committees, speakers' bureaus, press relations, and public service projects. Several pages are devoted to discussions of the role the Woman's Auxiliary can play in winning the good will of the public.

"Only a brief resume of some typical Auxiliary public relations projects can be given in this manual, but by scanning this list, medical societies who have not enlisted the aid of auxiliary members in their PR campaign will realize that they are overlooking an untapped reservoir of PR resources."

The manual then goes on to list some of the major activities and projects of auxiliaries:

Educational Activities. "One of the main aims of the Woman's Auxiliary is to bring to the general public accurate information on a variety of health and medical subjects." In previous issues this year, we have told you how our auxiliaries sponsor open meetings to which representatives of other organizations are invited; we have pointed out the effective work done by our members in selling subscriptions to *Today's Health.*

Medical Projects. Under this heading, the manual lists nurse recruitment, hospital auxiliaries, aid to old people, children and the handicapped, and other medical philanthropies. Our auxiliaries in California have been very active in all of these activities, especially in the field of nurse recruitment.

Legislative Activities. Although we do not take part in legislative work as a group, but rather as individual doctors' wives, the manual states that "medical auxiliaries have won their PR spurs in more than one instance by providing wonderful assistance in medical society legislative programs."

The chapter on auxiliaries concludes thus: "Wise medical societies know that the medical auxiliary is a close ally in a concerted public relations program."

* * *

ARE YOU GOING TO THE CONVENTION IN ATLANTIC CITY?

Many of our doctors will be attending the National Convention in Atlantic City in June; it would be a big help to us if their wives would volunteer to serve as Auxiliary delegates. They can notify the president of their local county Auxiliary, or write directly to me.

* * *

HOW TO MAKE A JOB A JOY

In her message to us in the current *Bulletin,* our national president, Mrs. George Turner, gave us this sage bit of advice, which is probably just as applicable to jobs in the medical society as in the auxiliary:

"Smile as you work; a smile is a curve that can set a lot of things straight."

MRS. FREDERICK J. MILLER, *President*

NEWS & NOTES

NATIONAL • STATE • COUNTY

ALAMEDA

Dr. Alexis F. Hartmann, professor of pediatrics and head of the department of pediatrics at Washington University School of Medicine in St. Louis, will be visiting lecturer for the fourth annual **Clifford Sweet Lectureship** on May 18, 19 and 20 at Children's Hospital of the East Bay in Oakland. The event was instituted three years ago by the medical staff of the hospital in honor of Dr. Sweet, who is emeritus chief of medicine, and formerly for 30 years was chief of the department of medicine there.

Beginning at 10 a.m. on Wednesday, the program will continue with both morning and afternoon meetings through Thursday and Friday at the hospital, and will culminate with the Sweet lecture on Friday evening following a banquet at the Berkeley Women's City Club in Berkeley. All sessions will be open to physicians interested in attending. Reservations for the Friday night banquet and lecture may be made through Children's Hospital of the East Bay.

SAN FRANCISCO

The California chapter of the **American College of Chest Physicians** will hold a business and scientific meeting in San Francisco at the Sheraton-Palace Hotel, April 30, 1955, the day before the opening of the California Medical Association's annual meeting. The business meeting will begin at 1:30 p.m. and the scientific program at 2 o'clock.

The 21st annual meeting of the national organization, the American College of Chest Physicians, is scheduled for June 1 to 5 at Atlantic City.

* * *

The Northern California Rheumatism Association will hold a dinner meeting at the University Club in San Francisco on Saturday, April 30, at 6:30 p.m. The guest speaker will be Dr. Edward W. Boland of Los Angeles, president of the American Rheumatism Association. His subject is "Experiences with the Newer Synthetic Steroids in Rheumatoid Arthritis."

Any physician may make reservations for the dinner by sending a check for $6.00 to the Northern California Rheumatism Association, 1 Tilton Avenue, San Mateo, California, on or before April 25, 1955.

* * *

The Christian Medical Society, Bay Area Chapter, will hold a dinner meeting in San Francisco, Tuesday evening, May 3, at 7 p.m. in the Garden Room of the YWCA. All interested physicians and their wives are invited to attend. Reservations at $2.00 a plate may be made by writing to Merrill J. Alexander, M.D., 581 Belvedere St., San Francisco.

GENERAL

The American College of Gastroenterology, in cooperation with the Ames Company of Elkhart, Indiana, recently announced the establishment of the Ames Award **contest for the best papers in gastroenterology.** There will be three classes of awards as follows: for fellows or residents in gastroenterology, two prizes, one of $250 and the other of $50; for first or second year interns, two prizes of the same amounts; for the best paper published in *The American Journal of Gastroenterology* during the twelve months ending June 20, 1955, for which no prize has been previously awarded, a prize of $100. Further information may be obtained from the Research Committee, American College of Gastroenterology, 33 West 60th St., New York 23, N. Y.

* * *

The tenth annual **Schering Award competition** for medical students has opened, it was announced by Robert W. Burlew, M.D., chairman of the award committee. Its aim is to encourage medical writing and exploration of current research literature.

Titles of three subjects on which American and Canadian students are invited to submit papers this year are: Current Concepts in the Management of Osteoporosis; Prevention and Treatment of Blood Transfusion Reactions; and Recent Trends in the Clinical Use of Adrenocortical Steroids.

A $500 first prize and a second prize of $250 will be awarded for each of the three subjects. Information and instructions for the award competition are available from the Schering Award Committee, 60 Orange Street, Bloomfield, N. J.

* * *

The 54th annual meeting of the **American Proctologic Society** will be held at the Hotel Statler, New York City, June 1 to 4, 1955, it was announced recently.

* * *

The board of directors of the Passano Foundation recently announced that Dr. Vincent du Vigneaud, professor and chairman of the department of biochemistry, Cornell University Medical College, has been selected as the recipient of the $5,000 **Passano Foundation Award** for 1955. On Wednesday evening, June 8, during the week of the American Medical Association convention in Atlantic City, a reception and dinner will be held at the Traymore Hotel to honor Dr. du Vigneaud. The award will be formally made at that time. Dr. E. C. Kendall, a former recipient of the award will introduce Dr. du Vigneaud. Dr. Elmer Hess, the incoming president of the A.M.A., will make one of the principal addresses. Officers and trustees of the Association will be among the guests.

The award is made to Dr. du Vigneaud in recognition of his investigation of the chemical and physiologic nature of the hormones of the posterior portion of the pituitary gland. This culminated in the identification and synthesis of oxytocin and vasopressin.

POSTGRADUATE EDUCATION NOTICES

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Announces the following spring courses:

Diagnostic Psychological Testing—April 14-May 9, 1955.

Plastic Repair of Superficial Wounds—April 22 and 23, 1955.

Techniques of Surgery of Malignancies of Oral Cavity, Maxillary, Parotid Gland and Neck—April 25 and 26, 1955.

Physiology, Anatomy and Surgery of the Temporal Bone—April 28, 29, 30, 1955.

Surgical Anatomy of the Thorax, Abdomen and Pelvis—April 28-May 23, 1955.

Obstetrics and Gynecology—early May.

Fevers of Unexplained Origin with Emphasis on Brucellosis—May, 1955.

4th Annual Laboratory Technicians Symposium—June 18 and 19, 1955.

Contact: Thomas H. Sternberg, M.D., Director of Postgraduate Medical Education, U.C.L.A., Los Angeles 24.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

In San Francisco:

Recent Advances in Internal Medicine — April 18 to April 22.

Pediatric Conference—September (dates to be announced later).

Conference on Applied Therapeutics—October 17 to October 19.

Conference on Gynecology and Obstetrics—October 20 and October 21.

Ophthalmological Conference—December 5 to December 9.

In East Oakland:

Medicine for General Practitioners—Tuesday evenings, September 20 to December 6.

In Berkeley:

Postgraduate Conference—Wednesday evenings, September to December (dates to be announced later).

In San Mateo:

Evening Lectures in Medicine—Thursday evenings, September 22 to December 15.

Contact: Office of Medical Extension, University of California Medical Center, San Francisco 22.

UNIVERSITY OF SOUTHERN CALIFORNIA AT LOS ANGELES

The Medical Extension Education Division of the University of Southern California School of Medicine announces:

March 7 through May 23—Course No. 882—First Section, Part b: "The Clinical Application of Radioactive Isotopes," will be presented from April 18 through May 23, at the Cedars of Lebanon Hospital. This course is especially designed for physicians in the field of radiology and those preparing for certification in this specialty.

Contact: For information and registration: Robert S. Cleland, M.D., Medical Extension Education, University of Southern California, School of Medicine, 2025 Zonal Avenue, Los Angeles 23.

CALIFORNIA MEDICAL ASSOCIATION, POSTGRADUATE ACTIVITIES INSTITUTES

SACRAMENTO VALLEY COUNTIES—Cal-Neva Biltmore Hotel and Lodge—June 15, 16, 17, 1955.

Contact: C. A. Broaddus, M.D., Director of Postgraduate Activities, P.O. Box A1, Carmel, California.

Medical Dates Bulletin

THIS BULLETIN of the dates of postgraduate education assemblies and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: C. A. Broaddus, M.D., P.O. Box A-1, Carmel, California.

APRIL MEETINGS

WESTERN INDUSTRIAL MEDICAL ASSOCIATION announces its 14th annual meeting in conjunction with the California Medical Association Meeting, in San Francisco, at 8:15 a.m. to 5:00 p.m. at the Sir Francis Drake Hotel (Empire Room). No registration fee. April 30, 1955.

MAY MEETINGS

CALIFORNIA MEDICAL ASSOCIATION announces: Annual Session, May 1-4, 1955, San Francisco.

A comprehensive five-day course in Poliomyelitis is offered by the Orthopedic Hospital and the Rancho Los Amigos Respiratory Center, Los Angeles. May 2 to 6, 1955.

Contact: Polio Teaching Program, Orthopedic Hospital, 2400 Flower St., Los Angeles 7.

JUNE MEETINGS

AMERICAN MEDICAL ASSOCIATION announces: Annual Session, 1955, Atlantic City, June 6 to 10, 1955.

OCTOBER MEETINGS

CALIFORNIA SOCIETY OF INTERNAL MEDICINE meeting at Biltmore Hotel, Santa Barbara, October 1, 1955.

Contact: Mildred D. Coleman, Secretary, 384 Post St., San Francisco.

SAN FRANCISCO HEART ASSOCIATION announces the Twenty-sixth Annual Postgraduate Symposium on Heart Disease, at St. Francis Hotel, San Francisco. October 5, 6, 7, 1955.

Contact: 604 Mission St., San Francisco 5.

The 1955 Scientific Assembly of the CALIFORNIA ACADEMY OF GENERAL PRACTICE will be held in San Francisco, at the Sheraton-Palace Hotel, October 9-12, 1955.

Contact: William W. Rogers, executive secretary, 461 Market St., San Francisco.

NOVEMBER MEETINGS

AMERICAN MEDICAL ASSOCIATION announces: Clinical Session, 1955, at Boston, November 29 to December 2, 1955.

INFORMATION

The Physician's Role in Workmen's Compensation

A PHYSICIAN treating patients under the provisions of the Workmen's Compensation Act assumes special relationships, responsibilities, and duties not all of which are common to private practice. To the patient the duty is to see that he receives all medical care necessary to effect his early recovery, return him to a wage earning status as soon as proper and possible, and, so far as possible, reduce his permanent disabilities to a minimum. To the employer and his insurance carrier he owes the duty to furnish such necessary medical care and to properly render complete reports in each case so that benefits due the patient may be promptly paid. To both he owes the responsibility of determining to the best of his ability and on an impartial basis questions which may arise, such as whether the patient is or is not able to return to work, whether the condition from which the patient is suffering is due to the alleged injury, of what exact elements any permanent disability may consist, etc.

Without considerable knowledge of what is necessarily required of him, and a willingness to meet these requirements, no physician can hope to become a success in this field. The need for medical panels has developed largely because only a comparatively few physicians have prepared themselves to meet the necessary requirements of learning the problems involved, rendering adequate reports, handling other necessary detail and solving the many problems that are inherent in the handling of Workmen's Compensation cases.

For various reasons, including requirements of the Industrial Accident Commission, the carriers must demand adequate reports, etc., and industrial injury cases will naturally tend to flow to those physicians who are qualified and will take the time to care for these details. In the hope of bringing more physicians into the field of industrial medicine and developing a better understanding of the problems of the employee, the employer, the insurance carrier, and the Industrial Accident Commission, this article has been prepared.

The Workmen's Compensation Act was developed as a social measure designed to place upon industry the responsibility for treatment of occupational injuries and diseases. Industry has two major burdens placed upon it: (1) To render such medical care as is necessary to restore the injured employee to his job as quickly as possible; (2) industry is expected to reimburse the employee with cash compensation to replace in part at least wages lost during the period of unemployment while convalescing from the industrial injury or illness. This is the basic social purpose of the Workmen's Compensation Law.

PREFACE

In 1950, a committee formed by the various insurance carriers writing workmen's compensation in the State of California was developed under the leadership of Mr. Gordon H. Snow.

At that same time, a committee was formed by the California Medical Association to meet with representatives of the insurance industry and meetings have been held continuously up to the present.

A great deal of difficulty that has been present in the application and conduct of medical services rendered under the workmen's compensation laws in the State of California has been the result of misunderstanding and confusion on the part of both the insurance industry and the medical profession. In order to try to clarify the problem, an article containing general instructions and information has been mutually prepared by these two committees. It is hoped that with a more complete understanding of each other's problems many of the unnecessary difficulties that have arisen in the past may be obviated in the future.

The material presented is not designed to be completely comprehensive, but it does point up the responsibilities of the employer, the patient, the insurance industry and the attending physician under the workmen's compensation law in the State of California.

It is our hope that it will create a better understanding between all of those concerned with this problem and thereby improve the quality of medical care rendered to this group of patients in the practice of medicine in the State of California. Proper understanding of each other's problems and mutual respect will do a great deal toward this end.

It is with this thought in mind that the article herewith was prepared.

INSURANCE COMMITTEE: Gordon H. Snow, Pacific Indemnity Company, Los Angeles, chairman; Rene Claudon, Industrial Indemnity Company, San Francisco; E. E. Bryan, State Compensation Insurance Fund, San Francisco; Jack Southall, Liberty Mutual Insurance Company, San Francisco; M. A. Lavore, American Associated Insurance Companies, Los Angeles; Richard H. Quigley, California Casualty Indemnity Exchange, San Francisco.

C.M.A. COMMITTEE: Francis J. Cox, M.D., San Francisco, chairman; Donald Cass, M.D., Los Angeles; Donald A. Carson, M.D., San Francisco; Frank A. MacDonald, M.D., Sacramento; George Maner, M.D., Los Angeles.

In addition, each individual employer in industry must have a vital interest in the prompt recovery of an injured employee since the absence of an experienced employee can directly interfere with the operation of his plan. In this respect, there are valid third party interests in the management of industrial medicine and surgery that are not present in the private practice of medicine.

The insurance industry, in protecting the financial responsibility of an individual employer, is simply acting as an agent for that employer and hence in many respects must be assumed to have the prerogatives and rights of the individual employer so far as controlling the care of the injured workman is concerned.

The Industrial Accident Commission, on the other hand, is the governmental agency charged with the determination of the laws written into the Workmen's Compensation Act. This governmental agency has two major functions: (1) Its first purpose is to act as a court in adjudicating claims of employees for compensation and propriety of medical care; (2) its second function is to act as an administrative body in maintaining statistics, records of the injury or disease, and the formulation of proper measures to prevent accidents or to eliminate disease hazards in industry.

The contact of the physician with the Industrial Accident Commission is primarily concerned with the first function but the attending physician must recognize the valid interest of the Commission in its secondary function.

WHAT CASES ARE COMPENSABLE

Generally, any employee covered by the Workmen's Compensation Act, who sustains injury or contracts an occupational disease, which injury or disease arises out of *and* occurs in the course of the employment, is entitled to medical care under the Compensation Act. This question has many facets, however, and all the answers cannot be given herein. It is suggested that the pamphlet, "Information Regarding the Workmen's Compensation Law of California," published by the Industrial Accident Commission, be carefully reviewed with special reference to page 7. Questions, however, will arise, and these should be promptly discussed with the insurance carrier to determine whether it will accept the case as compensable or whether the physician must look to the patient for payment of his account. Not always will the insurance carrier be prepared to give an immediate answer as investigation may be necessary to determine the facts of the case.

Where the identity of the insurance carrier is unknown to the doctor, contact should be made directly with the employer to obtain this information. Thereafter, further contact with the employer probably will be unnecessary as the carrier will perform all functions normally chargeable to the employer under the provisions of the Workmen's Compensation Act.

Generally speaking, in issuing its policy the insurance company undertakes to secure the employer against liability imposed upon him by the Workmen's Compensation Act. In addition, the carrier is very anxious to assure the employer that he will be relieved from all of the detail of handling any industrial injuries or diseases which occur as a result of the operations of the business insofar as this is possible under the law. Therefore, the carrier is anxious that all contact concerning an industrial injury or disease be made with it rather than with the employer.

WHO MAY TREAT OCCUPATIONAL INJURIES

The Workmen's Compensation Act provides for treatment by a "physician," which term is defined to include (and by this definition is limited to) physicians and surgeons, optometrists, dentists, chiropodists, osteopaths and chiropractic practitioners duly licensed and subject to the limitations in the scope of their respective practices as defined by California State Law.

WHO MAY SELECT THE ATTENDING PHYSICIAN

By the law, and its interpretation by the Industrial Accident Commission and our Courts of Appeal, the employer must furnish treatment to an employee entitled thereto. The employer, or if he be insured the insurance carrier, has the right to designate the attending or consulting physicians. In addition, the employee may have attending physicians of his own choice, at his own expense. The employer or insurance carrier may be held for treatment procured by the patient, if his employer, having knowledge of the injury, does not fulfill the obligation to provide treatment. Should the patient absent himself from treatment for more than one year, the physician should not render treatment or offer any advice which might be construed as treatment without specific authorization from the insurance carrier. The employee may request one change of physicians, whereupon the insurance carrier must name a panel of three competent physicians from which the employee may make his selection.

TREATMENT GENERALLY

History of Injury

The history should include the date, time, and place, and be obtained in sufficient detail to explain what the patient was doing and how he alleges he was injured and should be reported in full. This is necessary so the insurance carrier will have a complete picture of the case and so the physician may determine whether the alleged injury logically fits into the history of the accident as related. The patient's past history should also be taken to determine if the physician's opinion or treatment of the case will be affected.

Examination and Diagnosis

The examination should be sufficiently thorough for accurate and complete diagnosis. It is feared by some that too often the patient more or less diagnoses his own complaint by such statement as "I was lifting and strained my back." The patient may be sincere in his statement but a carefully taken history and thorough examination might lead to an entirely different opinion, diagnosis, or type of treatment. The diagnosis should be complete in detail. For example, if a fracture is diagnosed, show what bone and portion is involved, the exact nature of the fracture, whether it enters a joint and, if so, what joint. A complete diagnosis is very necessary as a matter of record and without it the insurance carrier cannot establish proper legal reserves to cover the anticipated cost of the case. Should the physician feel the condition is not occupationally related, he should so state and give his reasons for such conclusions.

X-rays

The carriers will pay for all *necessary* x-rays; however, thought should be given as to whether x-rays are indicated. A detailed written report of x-ray findings should be submitted showing not only what evidence of trauma is or is not found but commenting on the presence or absence of other pathological changes whether congenital or of more recent development.

Nature of Treatment

Treatment appropriate to the type of injury should be rendered, the appropriateness to be determined by the customary treatment rendered by qualified physicians generally treating such type of injury. Injections of various drugs are in order if commonly used as a recognized therapeutic aid considering the nature of the injury. The over-all welfare of the patient is of prime importance. Under the California law, the injured employee is entitled to all medical treatment required to cure or relieve from the effects of the injury.

Frequency of Treatment

Here, again, adequate treatment must be rendered. Certain injuries such as burns, infections, etc., may necessarily require treatment daily including Saturdays, Sundays, and holidays. Two or three treatments per week, at least after the acute stages have passed, appear to be adequate as demonstrated by the general practice of the majority of physicians. It is interesting to note the number of cases reported wherein treatment is rendered five days per week but not on week ends. The attending physician should determine treatment frequency (never the office nurse or the doctor's secretary), based on the actual needs of the individual patient. Office visits should continue only so long as is necessary. Remember that many patients must lose wages for time spent visiting the physician's office and are not entitled to reimbursement for this loss under the law. Hospital visits charged for should be limited to those reasonably necessary.

Drugs and Medical Supplies

The responsibility for arranging to furnish necessary drugs for home use is the responsibility of the doctor. It is proper to instruct the pharmacy to bill the insurance carrier directly. Excessive quantities of the drugs prescribed should be avoided.

Hospital Care

The average industrial case is expected to be cared for at ward rates. Where severity of injury or disease requires private or semi-private hospital accommodations they can and should be furnished. Should the patient not require but desire a private room, the carrier and the hospital should be advised and arrangements made for the patient to bear the extra expense. The period of hospitalization should be as long, but no longer, than necessary. Hospital costs under present conditions amount to a considerable figure and hospitalization should be terminated as soon as the patient's condition is such as to warrant it.

Nursing Care

Special nursing services are in order when *necessary* and only for so long as necessary. It is suggested that in cases requiring hospital or nursing care the insurance carrier be promptly advised.

Artificial Members or Braces

The injured employee is entitled to artificial members or braces when indicated by the extent of injury, after proper consultation between the doctor, the carrier, and the appliance maker. The furnishing of such items should be arranged in advance with the insurance carriers.

Consultation

The insurance company by law properly retains the right to engage a consultant of its own choice.

Therefore, it is necessary in the average case to consult the insurance carrier to obtain consent for consultation. Medical emergencies may require immediate direct choice of consultant by the attending physician. The insurance carrier, however, should be promptly notified if this course of procedure is followed.

Specialists' Care

If the attending physician feels it advisable that the patient be referred to a specialist for treatment, such referral should be arranged following consultation with the insurance carrier (except in case of emergency). In such event the specialist shall be regarded as the attending physician.

REPORTS IN GENERAL

The standard forms as approved by the carriers and the California Medical Association should be used to the exclusion of other forms. The standard forms can, if desired, be adapted to the use of the individual physician by changing the heading to include his name and address. The purpose of creating the standard forms was to eliminate the use of various forms printed by the individual doctors, insurance carriers, etc., and their use will simplify clerical work in the physician's office. Copies of all reports should be retained in the physician's file. It is highly important that uniform terminology be adopted in the reports. It is urgently suggested that each physician thoroughly acquaint himself with the booklet "Evaluation of Industrial Disability," prepared by the California Medical Association Committee, headed by Dr. Packard Thurber in collaboration with members of the staff of the Industrial Accident Commission and other interested parties. Use of the terminology and methods of evaluating permanent disabilities as outlined therein will facilitate the work of the Industrial Accident Commission and the insurance carriers and relieve the attending physician of numerous inquiries from the insurance carriers as to the exact nature of the injury and the factors of disability involved.

Doctor's First Report of Work Injury*

Standard Form No. 5021 as required by the State Division of Labor Statistics and Research *must be* used for this report. Every question, including "Remarks" on this form, as is true of all other forms, serves an important purpose and must be answered. Answers should be in sufficient detail to give an adequate history of the accident, the examination findings, the diagnosis, detailed x-ray findings, a description of the treatment rendered, the physician's prognosis as to what, if any, permanent disability may result and a statement regarding preexisting injuries or diseases which might affect the patient's recovery or any permanent disability which may result. A report of this form must, by law, be personally signed by the physician to be valid evidence and forwarded immediately to the Division of Labor Statistics and Research, P. O. Box 965, San Francisco 3, California. This form should be furnished in duplicate to the insurance carrier within five days.

Compensation Orders or Disability Slips‡

To promptly pay the patient weekly disability compensation, it is necessary that the insurance carrier check frequently regarding the patient's work status. Cooperation with these companies requiring use of compensation orders or slips is urged. Forms (5020C) requested for this purpose should be promptly signed and returned; otherwise the patient will be without needed funds. To those doctors wishing to render an exceptional service of great value to their patients and the carriers, an automatic system of reporting disability is suggested, as follows: Determine the date of patient's first disability from work and on every sixth day thereafter so long as temporary disability may continue forward to the insurance carrier a so-called disability slip. Automatic submissions of these slips results in very prompt payment of compensation. Forms for this purpose will be supplied by the insurance carrier involved. It should be borne in mind that disability may be partial as well as total, and, if the former, a light job might be found by the employer enabling the patient to return to a wage-earning status, thus improving his psychological and financial position.

Doctor's Supplemental Report†

Standard Form No. 5020A has been provided by which the insurance carrier may be kept informed of the progress of the case. It should be submitted weekly during the acute stages of a serious case and monthly thereafter. It should be submitted in triplicate and should be in sufficient detail to give the insurance carrier a full picture of the case as it progresses. No special fee is allowed for completion of this form.

Detailed Progress Reports

The insurance carriers, for several reasons, may require more information than would appear on the Doctor's Supplemental Report. They must, at all times, as required by law, maintain reserves adequate to cover their liability in each case. Serious injuries and particularly those likely to involve permanent disabilities require more detailed reports and should be furnished as requested by the insurance carrier. Their preparation will involve the necessity of measuring and otherwise evaluating the disability at the time of examination and should include the doctor's prognosis as to what part of the existing disability, if any, may remain as permanent disability factors. These reports should be prepared in accordance with the booklet, "Evaluation of Industrial Disability," as referred to above. If this is done, they will fill the needs of the insurance carrier and in such cases as are presented to the Industrial Accident Commission for determination of any problem will also fill its needs. It is

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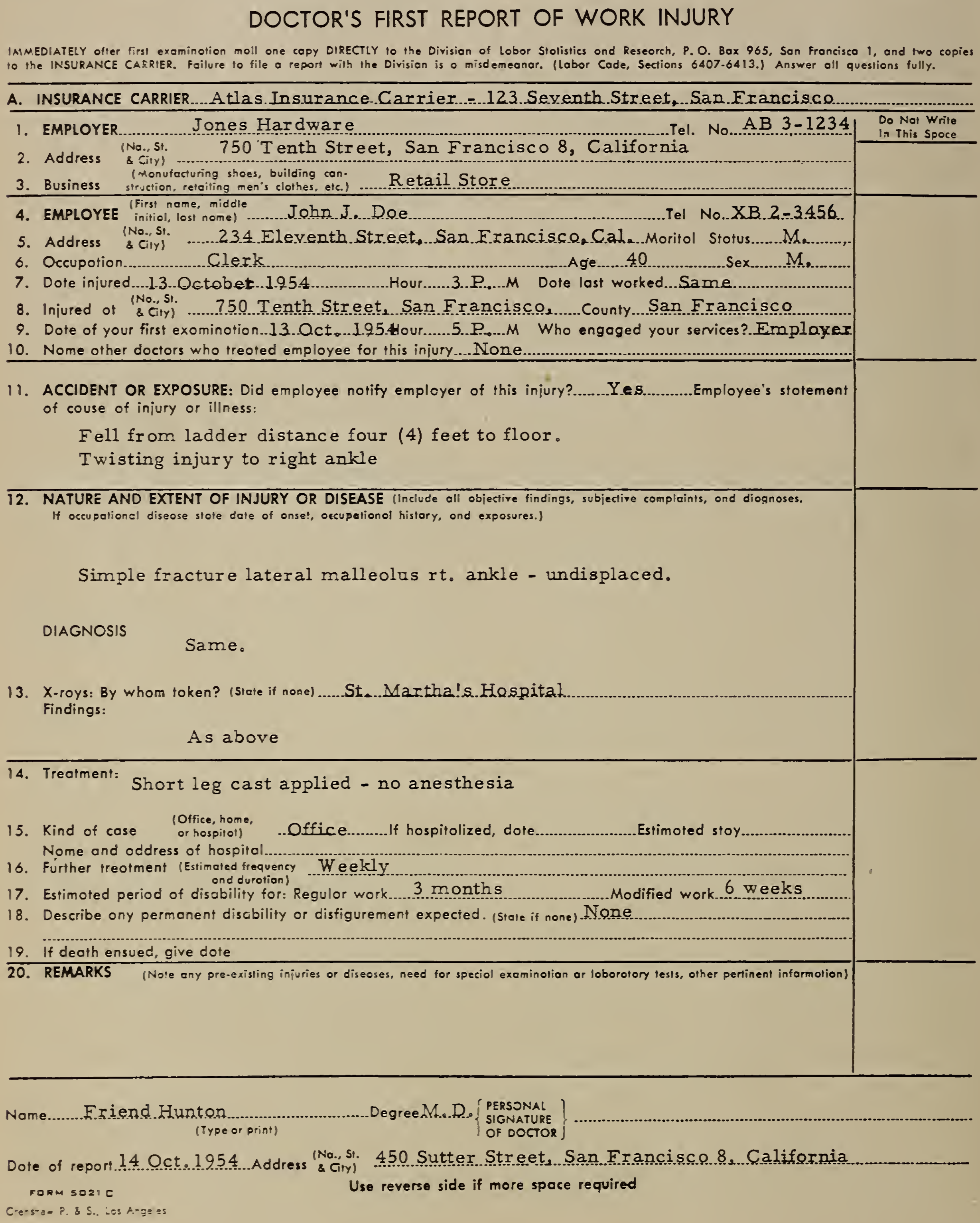
*See sample report on page 356 hereof.

‡See sample report on page 357 hereof.

†See sample report on page 358 hereof.



DOCTOR'S FIRST REPORT OF WORK INJURY

IMMEDIATELY after first examination mail one copy DIRECTLY to the Division of Labor Statistics and Research, P. O. Box 965, San Francisco 1, and two copies to the INSURANCE CARRIER. Failure to file a report with the Division is a misdemeanor. (Labor Code, Sections 6407-6413.) Answer all questions fully.

A. INSURANCE CARRIER Atlas Insurance Carrier - 123 Seventh Street, San Francisco

Do Not Write In This Space

1. EMPLOYER Jones Hardware Tel. No. AB 3-1234
2. Address (No., St. & City) 750 Tenth Street, San Francisco 8, California
3. Business (Manufacturing shoes, building construction, retailing men's clothes, etc.) Retail Store
4. EMPLOYEE (First name, middle initial, last name) John J. Doe Tel No. XB 2-3456
5. Address (No., St. & City) 234 Eleventh Street, San Francisco, Cal. Marital Status M.
6. Occupation Clerk Age 40 Sex M.
7. Date injured 13 October 1954 Hour 3 P. M Date last worked Same
8. Injured at (No., St. & City) 750 Tenth Street, San Francisco, County San Francisco
9. Date of your first examination 13 Oct. 1954 Hour 5 P. M Who engaged your services? Employer
10. Name other doctors who treated employee for this injury None

11. ACCIDENT OR EXPOSURE: Did employee notify employer of this injury? Yes Employee's statement of cause of injury or illness:

Fell from ladder distance four (4) feet to floor.
Twisting injury to right ankle

12. NATURE AND EXTENT OF INJURY OR DISEASE (Include all objective findings, subjective complaints, and diagnoses. If occupational disease state date of onset, occupational history, and exposures.)

Simple fracture lateral malleolus rt. ankle - undisplaced.

DIAGNOSIS
Same.

13. X-rays: By whom taken? (State if none) St. Martha's Hospital
Findings:

As above

14. Treatment: Short leg cast applied - no anesthesia

15. Kind of case (Office, home, or hospital) Office If hospitalized, date Estimated stay
Name and address of hospital
16. Further treatment (Estimated frequency and duration) Weekly
17. Estimated period of disability for: Regular work 3 months Modified work 6 weeks
18. Describe any permanent disability or disfigurement expected. (State if none) None
19. If death ensued, give date
20. REMARKS (Note any pre-existing injuries or diseases, need for special examination or laboratory tests, other pertinent information)

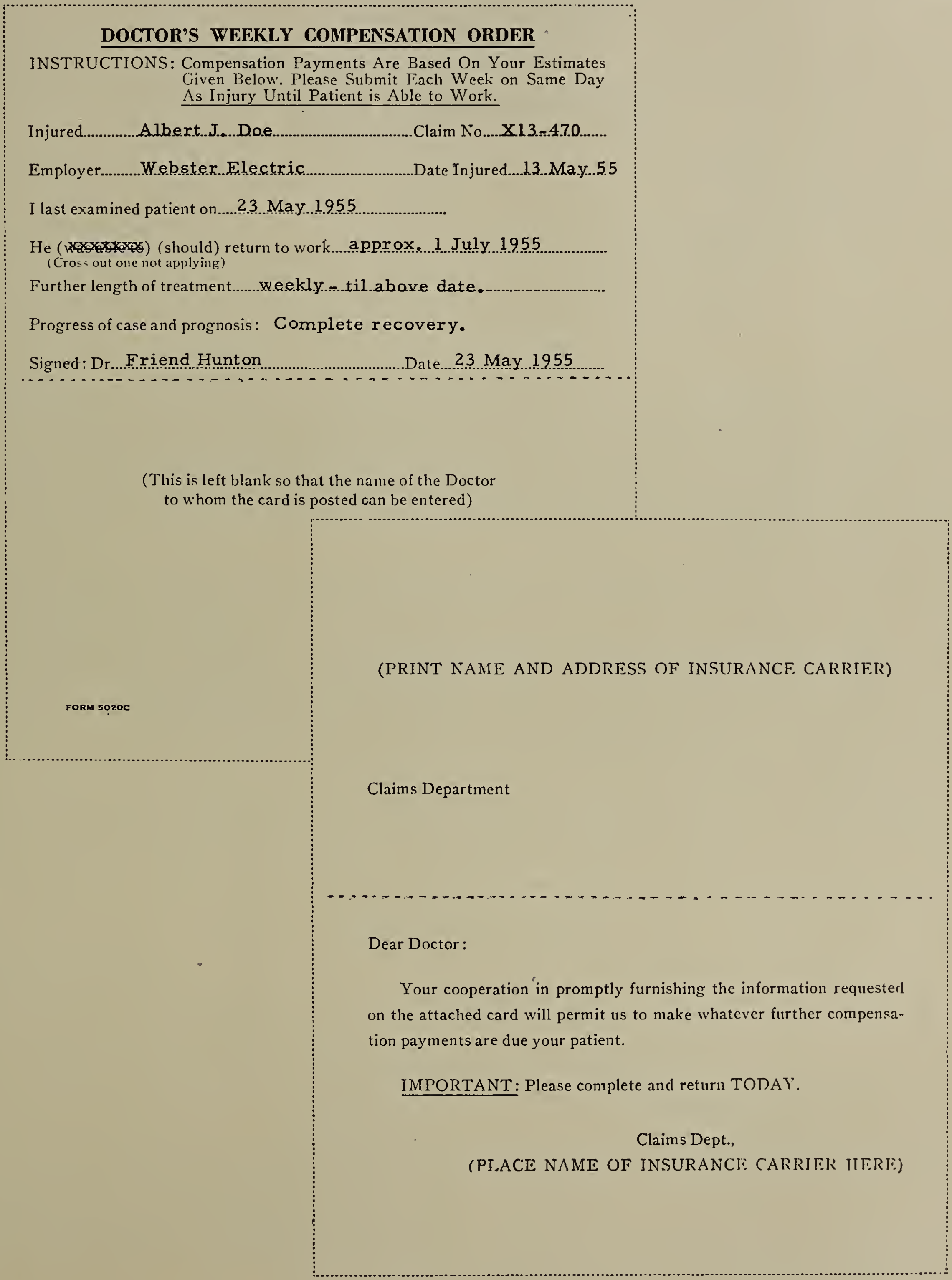
Name Friend Hunton (Type or print) Degree M. D. PERSONAL SIGNATURE OF DOCTOR

Date of report 14 Oct. 1954 Address (No., St. & City) 450 Sutter Street, San Francisco 8, California

Use reverse side if more space required

FORM 5021 C
Crenshaw P. & S., Los Angeles

suggested in preparing such reports the findings be compared with those submitted in the last previous detailed progress report and, if any wide variation from the findings previously reported is found, that the attending physician attempt to determine and report the reason for the same. Such comparison also enables the physician to determine whether present treatment methods are producing results, or whether other methods should be considered, also whether the condition has become stationary or permanent. (For fee for this report see Item No. 2001 of the Fee Schedule.)



DOCTOR'S WEEKLY COMPENSATION ORDER

INSTRUCTIONS: Compensation Payments Are Based On Your Estimates Given Below. Please Submit Each Week on Same Day As Injury Until Patient is Able to Work.

Injured....Albert J. Doe....Claim No....X13-470....

Employer....Webster Electric....Date Injured....13 May 55

I last examined patient on....23 May 1955....

He (~~was able to~~) (should) return to work....approx. 1 July 1955....
(Cross out one not applying)

Further length of treatment....weekly - til above date.....

Progress of case and prognosis: Complete recovery.

Signed: Dr....Friend Hunton....Date....23 May 1955....

(This is left blank so that the name of the Doctor to whom the card is posted can be entered)

FORM 5020C

(PRINT NAME AND ADDRESS OF INSURANCE CARRIER)

Claims Department

Dear Doctor:

Your cooperation in promptly furnishing the information requested on the attached card will permit us to make whatever further compensation payments are due your patient.

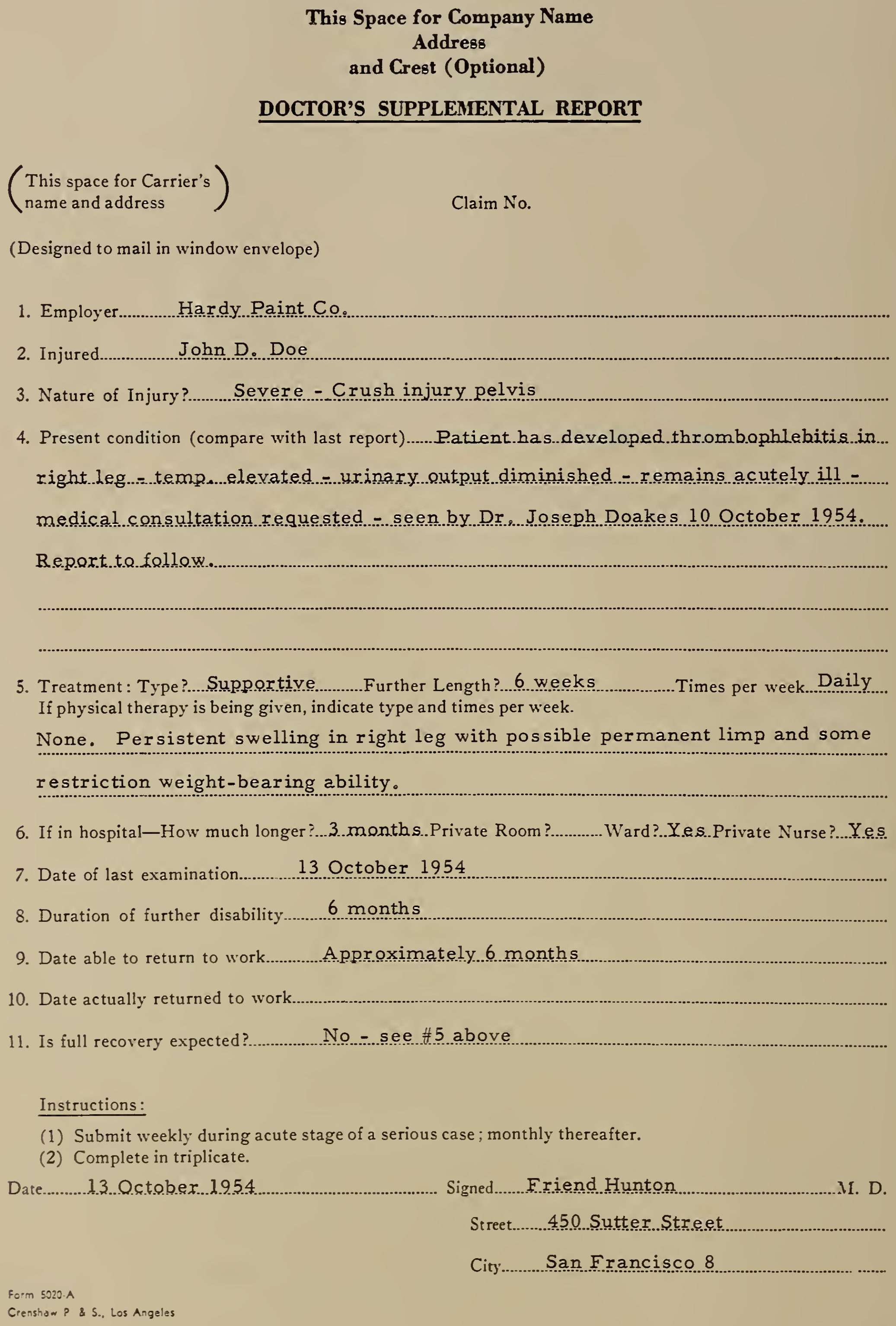
IMPORTANT: Please complete and return TODAY.

Claims Dept.,
(PLACE NAME OF INSURANCE CARRIER HERE)

Consultation Examination Reports

When asked to examine a patient as consultant or expert, the physician's reports will be of greater value if the following subjects are covered in detail:

1. The date and place of examination.
2. The patient's history of injury and developments to the date of examination including work status since injury and at time of examination.



This Space for Company Name
Address
and Crest (Optional)

DOCTOR'S SUPPLEMENTAL REPORT

(This space for Carrier's name and address) Claim No.

(Designed to mail in window envelope)

1. Employer Hardy Paint Co.
2. Injured John D. Doe
3. Nature of Injury? Severe - Crush injury pelvis
4. Present condition (compare with last report) Patient has developed thrombophlebitis in right leg - temp. elevated - urinary output diminished - remains acutely ill - medical consultation requested - seen by Dr. Joseph Doakes 10 October 1954. Report to follow.
5. Treatment: Type? Supportive Further Length? 6 weeks Times per week Daily
   If physical therapy is being given, indicate type and times per week.
   None. Persistent swelling in right leg with possible permanent limp and some restriction weight-bearing ability.
6. If in hospital—How much longer? 3 months Private Room? Ward? Yes Private Nurse? Yes
7. Date of last examination 13 October 1954
8. Duration of further disability 6 months
9. Date able to return to work Approximately 6 months
10. Date actually returned to work
11. Is full recovery expected? No - see #5 above

Instructions:

(1) Submit weekly during acute stage of a serious case; monthly thereafter.
(2) Complete in triplicate.

Date 13 October 1954 Signed Friend Hunton M. D.

Street 450 Sutter Street

City San Francisco 8

Form 5020-A
Crenshaw P & S., Los Angeles

DOCTOR'S FINAL (OR MONTHLY) REPORT AND BILL

Itemized bills, IN DUPLICATE, are to be submitted at the termination of the case.
Monthly statements are POSITIVELY required on cases under treatment.
Mail to Atlas Insurance Company Address 123 Seventh Street, San Francisco
Services beginning late in month and extending into succeeding month may be itemized on one statement.

EMPLOYER Able Laundry Service
EMPLOYEE James Doe
DATE OF INJURY 1 Nov. 1954 SERVICES FOR MONTH OF December, 1954

Patient refused treatment, 19
Patient stopped treatment without orders, 19
Patient entered hospital 1 Dec, 1954
Patient able to return to work 28 Dec., 1954
Patient discharged as cured 28 Dec., 1954
Condition at time of last visit
Recovered

Any other charges authorized such as Drugs? X (Check) Hospital? X (Check)

Code: O—Office; V—Home Visit; H—Hospital Visit; N—Night Visit; S—Operation; X—X-Ray.

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	S	H	H			O			O			O						O										O			

	Totals
First aid treatment (describe) Debridement wound - 2 inches palm of right hand - suture (1806)	$ 6.00
Office Visits Five (0008)	$ 14.25
Home Visits	$
Hospital Visits Two (0009)	$ 6.00
Operations See above	$
MATERIAL (Itemized at cost)	$
TOTAL	$ 26.25

Any charges shown above which are in excess of the minimum fee must be explained below regarding nature of such services, indicating the date rendered.

Make check payable to:

Doctor Friend Hunton, M. D. Signature

Address 450 Sutter Street, San Francisco 8 Date 28 December 1954

Form 5020-B
Crenshaw P & S., Los Angeles

3. The patient's past history with particular reference to the past injuries or illnesses which will affect the doctor's opinion of the patient's present condition.
4. The examination findings including x-ray and/or laboratory findings.
5. The diagnosis and opinion, and apportionment of disability, if any, expressed in percentage between the injury or disease and any other existing disease.

Most frequently consultation is needed to solve some problem. For example, the exact nature of treatment indicated, whether the patient's present complaints are related to the injury claimed, whether the claimant is, or is not, temporarily disabled from work, etc. In each case, to be of value, the physician must express a definite opinion one way or the other. A "yes" and "no" answer solves nothing, hence to the best of his ability the physician should express his impartial and unbiased opinion in the matter *and state the reason for having arrived at that opinion.* The physician must personally sign the report.

Doctor's Final (or Monthly) Report and Bill‡

Standard Form No. 5020B should be submitted in duplicate promptly after the patient is discharged from treatment or it is evident that he will not return for treatment. If he has not returned but there is danger of complications from lack of treatment, it is suggested the insurance carrier be notified immediately so the patient can be contacted and an attempt made to have him return for treatment. Particular attention is called to the questions showing the result or disposition of the case. The appropriate question or questions must be answered. Too many physicians leave them blank, hence the carrier does not know whether the patient has been discharged as cured, has failed to return for treatment, whether or not any permanent disability has resulted, or just what has happened. If the patient discontinued treatment without orders, it would be helpful if the doctor would describe patient's condition at the time of last visit; this for both the record of the insurance carrier and the physician.

MEDICAL FEES

Medical fees for treatment of industrial injuries in California are now subject to a schedule approved by the Industrial Accident Commission with which the physicians should become quite familiar. It is a schedule of minimum fees, not based on the ability of the employer or insurance carrier to pay, but determined to be fair compensation to the attending physician for services rendered in these cases. Charges in excess of the fees set by the schedule may be in order. However, when such exceptional charges are rendered, it should be clearly explained on the bill or by letter why the doctor feels an excess charge is warranted. Failure to so explain will result in the fee being reduced, inquiry from the insurance carrier, or delay in payment and possible misunderstanding. An excess charge would not seem justified because one physician may take longer than others to perform a specified procedure. It should be based on exceptional physical difficulties encountered at the time the procedure was undertaken. Inasmuch as every physician is expected to treat the injury involved in the most expert manner, fees cannot be determined by the adequacy of results obtained. The bill should be carefully itemized on the basis of the fee schedule so there will be no difficulty in auditing the same when it reaches the carrier. Drugs and dressings furnished by the physician should be itemized and charged for at cost. Some of the problems which may cause misunderstanding or at least concern the carrier in connection with the billing of cases include:

1. Bill not promptly rendered.
2. Bill not completed to show disposition of the case.
3. Fees not in conformity with the fee schedule and unexplained by the physician.
4. Appearance of excessive or unwarranted treatment.
5. Finding that the average cost of care by certain physicians may greatly exceed the average cost of others handling a volume of compensation cases and treating a comparable class of injuries. In this respect insurance carrier examiners are not physicians. It is impossible for them to specify why one doctor's average costs consistently run much higher than others. This question does not necessarily involve the integrity of the physician or his office staff. Some matters which may result in this situation include the following:
   (a) Excessive frequency or prolongation of treatment due to lack of control in the physician's office. (Remember many patients lose wages while reporting for treatment.)
   (b) Possible lack of thought in the ordering of x-rays, drugs, etc., or the quantity thereof.

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‡See sample report on page 359 hereof.

PERMANENT DISABILITY RATINGS AND REPORTS

Any employee sustaining permanent disability is entitled to compensation therefor. The attending physician should report to the insurance carrier when he believes the condition has reached a permanent and stationary stage. One error lies in reporting the case for permanent disability rating too early as shown by many cases where subsequent improvement has taken place and in others where the condition has become worse. Where subjective complaints or loss of grasping power are involved, the case ordinarily should not be rated under one year from the date of injury or until the patient has in any event worked for some months. Consideration should be given to apportionment of disabilities due to the injury in relation to the entire disability. The Industrial Accident Commission prescribes and furnishes forms for the reporting for permanent disability rating purposes. These forms will be useless unless they are properly completed in detail. Again, reference is made for this purpose to the booklet "Evaluation of Industrial Disability." See Item No. 2002 of the Fee Schedule for applicable fee for such report.

LEGAL PROCEEDINGS

The physician's part in the successful administration of the State Workmen's Compensation Act is a very important and exacting one. His obligation does not end with the administration of medical and surgical services to his patient. On the contrary, he owes a further obligation to his patient and to the people of the state of California, for he is a vital part of the entire system of workmen's compensation.

In 1913, the people of the state of California adopted a relatively uniform workmen's compensation act which was designed to eliminate the strife and uncertainty which existed between Labor and Management prior to the passing of the statute, and to provide in its place an orderly system for the disposition of industrial injuries and diseases. It provided for the employee a certain and definite source of income and a provision for medical, surgical, hospital, and drug expense during a period of disability or physical infirmity resulting out of and in the course of the employment. The cost for the administration of this entire program is borne by the employer who, in most cases, secures the payment for these items through the medium of an insurance policy, although some of the larger employers "self-insure." The machinery for the handling of industrial accidents is vested in the Industrial Accident Commission.

The Commission, appointed by the Governor, is composed of two panels of three members each who are assigned to the panels by the chairman of the Commission. Panel One is located in San Francisco, and Panel Two in Los Angeles. Cases are heard by hearing officers or "referees" who sit in various parts of the state to cover a calendar of cases assigned for trial before these referees. The number of referees varies with the volume of business coming before them.

Although the Commission is an administrative body designed to streamline the processing of industrial injury, it is nevertheless a court of law. It has the power of subpoena and otherwise possesses, generally, powers that exist in the Superior Courts, except that its jurisdiction is specifically limited by statute to industrial injuries and diseases and collateral matters having to do with industrial injuries and diseases. On the other hand, the formality which one sees in the handling of cases before the Superior Court does not exist in Industrial Accident Commission hearings. These hearings are informal in nature designed to accomplish the objective of disposing of the case on a just, equitable, and speedy basis.

The only legal proceeding with which the physician will be involved will be a hearing before the Industrial Accident Commission. Where the circumstances require, the physician is expected to appear before the Commission, although this is relatively rare, as written reports of the physicians are admissible in evidence and thus personal appearance is seldom required. However, where required, the doctor should cooperate and appear willingly. He is entitled to a fee for his services. If the physician will contact the company representative or attorney, he can arrange to be on call rather than to spend needless time in the hearing room. If for any reason the plans for the physician's appearance are changed, he will normally be notified but in view of possible oversight, it is suggested he check with the person issuing the subpoena a day or two before the hearing to avoid the possibility of an unnecessary appearance.

REHABILITATION

In cases of serious injury where permanent disability may result to bodily parts, the attending physician should make recommendations to the employer or insurer with regard to the advisability of referring the employee to a facility of rehabilitation in order that the permanent disability will be reduced to a minimum and the worker reconditioned to the ability to work.

In cases where the anticipated permanent disability is so severe that the rehabilitation to employability through physical rehabilitation is not possible, the attending physician should consult the State Department of Vocational Rehabilitation and the employer or insurer to see if a plan for retraining in other types of employment may be advisable. These cases should be evaluated as early as possible. If retraining in other types of employment is necessary and feasible, it will be psychologically and financially to the advantage of the employee that such training be started while payment of temporary disability compensation benefits is continuing.

OFFICE RECORDS

It is important that the attending physician maintain adequate records of compensation cases. The form of record may vary. In addition to having an individual case folder in which may be filed copies of reports, etc., it is a common practice to maintain a case history card on which the brief history of the case is noted. Such cards are usually prepared so that the date of each visit and the nature of the treatment rendered may be noted, from which record adequate billing can be made.

CONCLUSION

As stated, the purpose of this outline is to better acquaint physicians with the problem of those concerned with workmen's compensation cases, the employee, the employer, the insurance carrier, and the Industrial Accident Commission. It can be fairly stated that the insurance carriers desire to meet their just obligations. In the interest of maintaining the best possible relations between the attending physician, the patient, employers or their insurance carriers, it is important that there be full communication to interested parties of all important factors affecting the progress of the medical care of the patient. Occasionally the attending physician may observe a tendency to malinger or a patient's refusal to cooperate with the physician in his efforts to bring about speedy and complete recovery from the effects of the injury. The physician should, in the best interests of the proper administration of the Workmen's Compensation Law, communicate the facts frankly and fully to the employer or its insurance carrier.

Reprints of this article may be obtained by any M.D. practicing in the State of California upon request to California Medical Association, 450 Sutter Street, San Francisco 8.

Survey of Medical Resources to Meet Enemy Attack

Should Russia or one of her ill-advised satellites to whom logic is alien, launch an all-out attack against this country, how would California's medical resources begin to meet the enormous casualty problems that would inevitably result?

The answer to this question, or at least some of the basic tools with which a partial answer may be forthcoming, are expected to be derived from a statewide survey of disaster care capacity facilities which was begun last month. In announcing the survey, Frank L. Cole, M.D., Chief of the Division of Medical and Health Services for the State Office of Civil Defense, predicted that the entire medical profession would be vitally interested in the study inasmuch as it will provide for the first time a comprehensive statewide inventory of California's medical resources.

In addition to the normal facilities in day-to-day use, the study will determine blood bank capacities, numbers of available medical personnel and those in related professions, and space which can be used for improvised medical facilities.

The medical resources survey will be part of an overall care capacity inventory in which every community and rural area in California—outside of critical target areas—will be scrutinized for all possible facilities which could be used to feed, shelter, clothe and provide medical care for dispersed populations of major cities should they be subjected to attack.

Four divisions of the Office of Civil Defense will cooperate on the survey. They include, besides the medical and health unit, the Evacuation and Welfare Services, Utilities, and Engineering. The Division of Evacuation and Welfare will determine the total capacities of the state to care for able-bodied, or uninjured dispersees, while the Utilities and Engineering Divisions will coordinate with the survey to determine whether sewer, water, electricity and gas capacities might be limiting factors in providing such care.

Physicians and local health officers will be asked to cooperate in procuring much of the information required for the study operation, which is believed to be the first and largest of its kind in the nation. Together with hospital administrators in local communities, they will be asked to assist local CD directors in surveying existing hospitals both for their existing and emergency expanded capacities. In addition, listings will be established of structures and space which could meet qualifications for serving either as congregate shelters for mass care or as improvised or auxiliary hospital purposes.

The survey is strictly an inventory of resources and capacities, according to Dr. Cole. "No attempt is being made during the survey period to relate the facts and figures to actual use or to the development of a detailed program for the care of people following a disaster," he explained. "The necessary action to prepare specifically for the care of people will be considered after the survey has been completed."

Preliminary groundwork for the statewide operation was laid by conducting two separate "pilot" studies last year—one in the city of Ventura and the other in San Mateo County. In these areas, full scale surveys were conducted primarily to determine criteria, or "yardsticks," and to develop simplified methods, procedures and forms for use in the larger study. Many factors of interest to the medical profession were developed in these preliminary surveys, notable among which was the compilation of data related to the emergency expansion potential of existing hospital spaces.

Dr. Cole urged that all Civil Defense medical chiefs as well as county health authorities and interested physicians discuss the survey thoroughly with their local Civil Defense directors. "The study will permit the medical profession in the State of California to assume an outstanding position in the nation by being fully able to coordinate and direct the medical care activities in any part of the state should an emergency arise," he pointed out.

Poliomyelitis Vaccination Project

Since it appears that the information it contains will be of interest to many physicians in addition to the local health officers for whom it was prepared, we publish here a statement by Dr. Malcolm H. Merrill, director of the California State Department of Public Health, regarding the proposal for poliomyelitis vaccination of first and second grade school children.
—*Editor.*

The National Foundation for Infantile Paralysis (NFIP) has contracted to purchase from pharmaceutical manufacturers enough material to provide 9,000,000 complete vaccinations so that if the evaluation of the 1954 field trial of the Salk poliomyelitis vaccine indicates that the vaccine is effective, and the product is licensed for commercial use by the National Institutes of Health, at least this limited supply of vaccine may be available before the 1955 poliomyelitis "season." This commitment will also allow commercial laboratories to be prepared to produce additional quantities of vaccine.

While the final details of the NFIP proposal have not been issued, the following is a resume of currently available information:

The NFIP has contracted to purchase sufficient material to provide 9,000,000 vaccinations of three injections each. This vaccine will be distributed on request to states and territories. The mechanics of distribution are left to each State Health Officer.

Material and Use. The Salk vaccine is a polyvalent killed virus vaccine. A vaccination will consist of three injections, with an interval of one week between the first two injections and one month between the second and third injection. The dose for each injection is 1 cc. The material is injected intramuscularly.

As with all licensed biologics now, the brochure enclosed in the package will recommend that a separate syringe and needle be used for each injection.

Packaging and Preservation. The vaccine is to be packaged in 10 cc. vials, each vial containing 9.5 cc. or sufficient material for nine injections. It is not certain at this time whether the vaccine will contain a preservative. If no preservative is used, the material would have to be used within a few hours after a vial is opened.

Eligible Persons. Two groups will be offered the material under the NFIP's proposal.

1. All children who participated in the 1954 trials but who did not receive the vaccine (the controls). In California approximately 3,500 children in Alameda County will be in this group.

2. All children enrolled in the first and second grades of all primary schools—public, private, and parochial—in the continental United States, Alaska, and Hawaii in the spring term of 1955. In California, the current estimate for this group is 510,000 children.

Date of Availability. After the report is rendered on the evaluation of the Salk vaccine field trial, the National Institutes of Health will consider the granting of licenses to produce for commercial sale. It has been estimated that the NIH considerations may be completed in a week or so. The material may be packaged in advance and ready for shipment so that receipt in the state [California] could be within 24 hours after the granting of a license. It is possible that the state's allotment may not arrive in one shipment, thus raising the possibility of a staggered distribution schedule in the state.

Role of NFIP in Local Administration and Provision of Supplies. The NFIP will ask its local chapters to designate an individual to be responsible for organizing assistance when requested by the local health officer. The NFIP will not provide syringes or needles. Informational and organizational materials are being developed for use if desired by the individual states. In California, such materials would be requested from the NFIP by the State Department of Public Health if desired by the individual local health jurisdictions.

STATE AND LOCAL PARTICIPATION

The following statements are based upon the recommendations of the State Advisory Committee at its meeting of January 21, 1955:

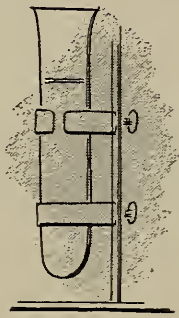
State Endorsement of NFIP Proposal. The State Department of Public Health endorses this project of active immunization with poliomyelitis vaccine for all children enrolled in the first and second grades of all primary schools—public, private, and parochial—in California and strongly encourages statewide participation. This endorsement is contingent upon a favorable report that the vaccine is a safe and effective prophylactic agent against poliomyelitis and the granting by NIH of license to produce the material for commercial sale.

Local Participation. Local health officers* of areas desiring to participate in this project should notify the State Department of Public Health of their interest. In the near future, it is anticipated that each health officer will be requested to furnish the State Health Department with a count of all children enrolled in the first and second grades of all primary schools—public, private, and parochial—in his area as of a stated date during the spring term of 1955.

Organization and Administration. Local health departments have had long experience in promoting and achieving immunization of large segments of their populations. Therefore, it seems most feasible for each local department to use its own methods and procedures to bring about this additional immunization of first and second grade school children with poliomyelitis vaccine in the spring of 1955. It is recognized that a wide variety of methods will be employed in the 67 health jurisdictions of the state.

Areas in which health departments have not been organized may wish assistance in the planning of procedures for this special immunization project. The State Health Department will arrange for such assistance upon request.

If this project is undertaken, every effort should be made to immunize all eligible persons well ahead of the period of maximal frequency of poliomyelitis in 1955. In this connection, if a delay in receipt of vaccine occurs, and if there is a need for scheduling shipments of vaccine to local areas, first priority will be given to Alameda County for children who participated in the 1954 field trials but who did not receive vaccine at that time. Scheduling of the remainder will be planned in south to north order.



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*Health officer of all full-time departments, County Health officers of other areas.

THE PHYSICIAN'S *Bookshelf*

OF PUBLISHING SCIENTIFIC PAPERS. George E. Burch, M.D., F.A.C.P., Henderson Professor of Medicine, Tulane University School of Medicine. Grune & Stratton, New York, 1954. 40 pages, $2.75.

This illustrated booklet of 40 pages which was Dr. Burch's presidential address before the Central Society of Clinical Research in 1953, is an excellent summary of many of the problems arising in presentation and writing of scientific facts. Investigators and authors are classified as "the self-plagiarist, the self-aggrandizer, the obsessive writer, and the ones with tubular vision." Types of readers are "the critic," "the scanner," and "the summary addict." Editors are criticized as often being too critical and dictatorial, and editorial boards as composed of those who are board-o-philiacs or "men of distinction" rather than active, vigorous investigators. There is general criticism of the sensationalism regarding scientific material in the lay press and a note about the "miracle monger."

Burch's criticisms are well taken and lead one to conclude with him that improvement in scientific writing can come "only from demanding the highest integrity and performance among all concerned with writing scientific papers."

* * *

ACUTE POLIOMYELITIS—Diagnosis and Treatment of the Acute Phase of Poliomyelitis and Its Complications. Edited by Albert G. Bower, M.D. The Williams and Wilkins Company, 1954. 257 pages, $6.50.

This volume commands respectful reading because its conclusions are based on the team care of 18,000 acute cases of poliomyelitis. The authors' concern is for the most part with the acute phase of the disease, the essentials of diagnosis and early treatment, the recognition of the various complications which appear during the early stage, and especially the management of emergency situations which may then arise.

Respiratory paralysis occurring in both the bulbar and spinal forms of the disease is dealt with in detail with respect not only to the clinical considerations which point to respiratory inadequacy but also with regard to the various instrumental measures and laboratory studies which may be utilized to determine ventilatory capacity and gas exchange.

Few would question the value of tracheotomy in a considerable proportion of those with respiratory failure and impaired airway but these authors recommend this operation with an enthusiasm which is somewhat greater than that which currently obtains throughout the country. There are excellent discussions of the indications for this operation, of the technique of operation and of special methods which are necessary for successful after-care in the tracheotomized patient.

Methods for temporary or long continued artificial respiration are described with comment on the many mechanical appliances which are available for this purpose.

A final chapter is devoted to applying to the use in a small hospital of the methods of diagnosis and treatment previously described. This section does not succeed in the simplification of this matter so as completely to guide the hospital in which only an occasional patient with this disease may be admitted.

It is extremely doubtful that all the many problems in the care of poliomyelitis can be routinized within the resources of other than well equipped institutions with adequately trained personnel. Nonetheless this book contains many valuable suggestions and much good advice which can be profitably read by any physician responsible for the care of patients with poliomyelitis, whether the patients be many or few.

* * *

MANUAL OF CLINICAL MYCOLOGY—Second Edition. Norman F. Conant, Ph.D., Professor of Mycology and Associate Professor of Bacteriology; David Tillerson Smith, M.D., Professor of Bacteriology and Associate Professor of Medicine; Roger Denio Baker, M.D., Chief, Laboratory Service, Professor of Pathology; Jasper Lamar Callaway, M.D., Professor of Dermatology and Syphilology, all from Duke University School of Medicine; and Donald Stover Martin, M.D., Chief, Bacteriology Section, Communicable Disease Center, Chamblee, Georgia. W. B. Saunders Company, Philadelphia, 1954. 456 pages, 202 figures, $6.50.

During the decade just past, the need for additional information concerning fungus infections has become apparent to physicians in all fields of medicine. Seemingly, there has been an increase in the incidence of mycotic infection. With more laboratories having facilities for the isolation of pathogenic fungi, naturally more cases are being found. It is known also that antibiotic therapy can be responsible for a change in the fungus flora of the body.

The second edition of the "Manual of Clinical Mycology" by Conant et al. is the latest and the most complete book now available on the subject of mycotic infections. This edition brings together recent advances concerning epidemiological, immunological and therapeutic information as well as presenting concise, well-written descriptions of the symptomatology, pathology and mycology of fungus infections.

The deep or systemic mycoses constitute the major portion of this book. Each disease is taken up separately, discussed thoroughly, and illustrated with photographs of lesions and roentgenograms. The mycology section of each chapter discusses the appearance of the fungus in the clinical specimen and specific methods of isolation. Each organism is illustrated by photomicrographs. This portion of each chapter will be exceedingly useful as a reference for those laboratories which may be called upon to isolate and identify a pathogenic fungus. The chapters on the fundamentals of mycology and on the common contaminants will also prove helpful.

The chapters delegated to the fungus infections of the superficial layers of the skin are comparatively brief. No doubt many physicians would desire more detailed information, especially in the section on differential diagnosis. Many fine photographs of lesions are included and there is an illustrated chapter on the mycology of the dermatophytes. The authors have made use of recent physiological studies on the dermatophytes which simplify classification considerably. A chapter on the immunology of the dermatomycoses will be of interest, especially for those physicians who see patients who have developed a hypersensitivity to their mycotic infection. An understanding of such "id" reactions is of great importance in the therapeutic regimen.

The bibliography, although not comprehensive, contains recent publications, especially those with full reference lists.

The appendix includes sections on mycologic culture methods, tissue staining techniques, immunologic methods and a formulary.

This book will satisfy the needs of physicians in all branches of medicine who desire the latest information concerning fungus infections. Its succinct presentation makes it a highly useful book, preferable to all others now available on the subject of fungus infection.

* * *

ANNUAL REVIEW OF MEDICINE—Volume V. Windsor C. Cutting, Editor, Stanford University School of Medicine; and Henry W. Newman, Associate Editor, Stanford University School of Medicine. Annual Reviews, Inc., Stanford, Calif. 490 pages, $7.00.

The Annual Review of Medicine, Vol. V, for 1954, continues their invaluable series of medical reviews. In general, one may criticize the mechanics of publication that necessitate the appearance in December 1954 of reviews, which finish with the literature of the fall of 1953, so that when a reviewer states that his chapter covers the literature from the beginning of 1952 to the present, he really means from the beginning of 1952 to September 1953.

Each section has an extensive bibliography, the largest perhaps being that devoted to endocrinology, which has 433 references; the most limited is that on anesthesia, with 57 references. One might also criticize the titles given to some chapters. The one headed *Radioactivity*, a field of great importance, especially if radioactive isotopes were considered, is limited to the effects of irradiation injury. The chapter, *Laboratory Aids to Diagnosis and Therapy*, an enormous, extremely important clinical subject, is actually confined to the phenomena of hemagglutination. And the chapter on hematology, *Diseases or the Reticuloendothelial System and Hematology*, is limited to an excellent review of hemorrhagic disorders.

With these limitations, the listing of the literature and the discussions of published work during the years 1952 and 1953 are very valuable. The section on infectious diseases, 'by Jawetz, and that on endocrinology by Soffer and Gabrilove are especially to be recommended.

The volume, as usual, concludes with the widely annotated list of reviews by MacKay, which certainly furnishes useful and immediate orientation in many fields.

* * *

TEXTBOOK OF PEDIATRICS—Sixth Edition. Edited by Waldo E. Nelson, M.D., Professor of Pediatrics, Temple University School of Medicine. With the collaboration of seventy contributors. W. B. Saunders, Philadelphia, 1954. 1,581 pages, $15.00.

The sixth edition of this standard pediatric text, formerly known to pediatricians as Mitchell-Nelson, is now under Nelson's name alone. This is a reasonable change, since Mitchell has now been dead 15 years, and little of the material prepared by him remains. A four-year interval has elapsed since the fifth edition, during which the many discoveries and developments in the field of childhood medicine have occurred. It is therefore interesting to note that the present edition contains about 100 fewer pages than the last previous one, largely the result of deliberate and innocuous condensation. Like most modern standard medical texts, this is the work of a large number of collaborating specialists, some of them outside the area of pediatrics in its stricter sense. In the present edition these number 72, including the editor. In general, they have been carefully selected and are of a high grade of competence.

It is obviously impossible to offer a detailed critique of many separate articles. During the period since the volume has come to the reviewer's desk, he has made frequent references to specific topics and has as yet failed to find more than a very few not discussed. However, a few instances of incomplete coverage might be mentioned. Under diarrheal disorders, the important recent discovery of E. coli 0111 as a cause of epidemic diarrhea and its susceptibility to certain antibiotics are not mentioned. The convulsant effect of pyridoxine B_6 deficiency, which recently caused alarm in relation to a particularly proprietary milk-substitute is dealt with too cursorily. Under laboratory procedures in the diagnosis of rheumatic fever, antistreptolysin O and antihyaluronidase are not mentioned. The diagram of the major findings in poliomyelitis is incorrect in several respects. Furadantin is not mentioned in the section on antibiotics.

The majority of sections have been revised or completely rewritten. There are new sections on: selection of antimicrobial agents; isolation measures for infectious diseases; Coxsackie virus infections; cat-scratch fever; cytomegalic inclusion disease; toxocariasis and visceral larva migrans; pneumatosis intestinalis; cysts of the liver; pancreatic dysplasias simulating pancreatic fibrosis; metabolic disorders simulating rickets; the eyes of the newborn infant; sarcoidosis; and radiation injury. Chapters that have been completely rewritten include: the ear; diseases of the blood (with new classifications); the eye (with an excellent discussion of retrolental fibroplasia and fine colored photographs of the various stages); and neoplasms and other tumors.

The index is superb; I estimate that it now contains over 10,000 items, as compared with about half that number in the preceding edition.

This volume is a "must" for the up-to-date pediatrician's library.

* * *

CLINICAL CHEMISTRY IN PRACTICAL MEDICINE—Fourth Edition. C. P. Stewart, D.Sc. (Dunelm), Ph.D. (Edin.), Reader in Clinical Chemistry; and D. M. Dunlop, B.A. (Oxon.), M.D., F.R.C.P. (Edin.), F.R.C.P. (Lond.), Christison Professor of Therapeutics and Clinical Medicine, both from the University of Edinburgh. E. & S. Livingstone Ltd., London, distributed by Williams and Wilkins Co., Baltimore, Md., 1954. 320 pages, $5.00.

This is a practical volume which presents the everyday application of biochemistry in clinical medicine. It is not an elaborate text and does not attempt a comprehensive account of all laboratory tests but it does select those which the authors consider important, useful and reliable. These are detailed in a separate appendix.

The book has been revised rather thoroughly since the third edition was reviewed in 1949. The chapters and the subject matter are rearranged in more desirable sequence. The authors have the knack of writing with clarity and conciseness. (The chapter on collection and preservation of samples may be cited as an example of clear medical writing.)

Although this is a Scotch text, written primarily for local consumption, it can be recommended for consumption by practitioners and students generally.

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Dramatic Remission of Ulcer Pain

Pain of ulcer is associated with hypermotility; the pain is relieved when abnormal motility is controlled by Pro-Banthīne.

"In studying[1] the mechanism of ulcer pain, it is obvious that there are at least two factors which must be considered: namely, hydrochloric acid and motility.

". . . our studies indicate that ulcer pain in the uncomplicated case is invariably associated with abnormal motility. . . .

"Prompt relief of ulcer pain by ganglionic blocking agents . . . coincided exactly with cessation of abnormal motility and relaxation of the stomach."

Pro-Banthine Bromide (β-diisopropylaminoethyl xanthene-9-carboxylate methobromide, brand of propantheline bromide) is a new, improved, well tolerated anticholinergic agent which consistently reduces hypermotility of the stomach and intestinal tract. In peptic ulcer therapy[2] Pro-Banthine has brought about dramatic remissions, based on roentgenologic evidence. Concurrently there is a reduction of pain, or in many instances, the pain and discomfort disappear early in the program of therapy.

One of the typical cases cited by the authors[2] is that of a male patient who refused surgery despite the presence of a huge crater in the duodenal bulb.

"This ulcer crater was unusually large, yet on 30 mg. doses of Pro-Banthine [q.i.d.] his symptoms were relieved in 48 hours and a most dramatic diminution in the size of the crater was evident within 12 days."

Pro-Banthine is proving equally effective in the relief of hypermotility of the large and small bowel, certain forms of pylorospasm, pancreatitis and ureteral and bladder spasm. G. D. Searle & Co., Research in the Service of Medicine.

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1. Ruffin, J. M.; Baylin, G. J.; Legerton, C. W., Jr., and Texter, E. C., Jr.: Mechanism of Pain in Peptic Ulcer, Gastroenterology *23*:252 (Feb.) 1953.

2. Schwartz, I. R.; Lehman, E.; Ostrove, R., and Seibel, J. M.: A Clinical Evaluation of a New Anticholinergic Drug, Pro-Banthīne, Gastroenterology *25*:416 (Nov.) 1953.

SEARLE

American Medical Association Judicial Council Ruling

The American Medical Association's Judicial Council has ruled that the conduct of Dr. Ben E. Landess, a Queens County physician affiliated with a medical group of the Health Insurance Plan of Greater New York (HIP), does not violate the ethics of the American Medical Association dealing with solicitation of patients by advertising.

The Judicial Council clarified the ethical position of physicians associated with HIP in regard to advertising.

In a test case, the Council's ruling involved Dr. Landess, medical director of the Jamaica Medical Group, affiliated with HIP. In May 1954 the House of Delegates of the Medical Society of the State of New York upheld the Queens County Society whose Board of Censors found that Dr. Landess was guilty of unethical conduct under that portion of the Code of Professional Conduct dealing with unethical advertising.

The Judicial Council ruled:

"Since on the record before us HIP is organized and operates in accordance with law and may lawfully advertise; since the quality of its advertising is not an issue, and since Dr. Landess had nothing to do with the preparation or distribution of the advertising, it is our opinion contrary to that of the state and county medical societies that the conduct of Dr. Landess does not violate the ethic relating to solicitation and advertising."

Continuing, the Council said in its opinion:

"In view of the advisory nature of the county society's report and since Dr. Landess has not been deprived of any membership privileges, we believe our opinion disposes of this appeal and no further action by the Judicial Council is called for at this time."

The decision was rendered after months of study of the evidence by the Council whose members also heard oral arguments in the case during the A.M.A. Clinical Meeting, held in Miami early last December.

The Council is composed of Drs. H. L. Pearson, Jr., Miami, chairman; Louis A. Buie, Rochester, Minn.; Walter F. Donaldson, Pittsburgh; J. Morrison Hutcheson, Richmond, Va.; and George A. Woodhouse, Pleasant Hill, Ohio.

The Dr. Landess case was one of the most heated and controversial ever to come before the Judicial Council.

The whole case revolved around the claim that Dr. Landess was unethical because his name appeared in HIP advertising.

Here is a brief sequence of events leading up to the Council's decision:

Dr. Landess took his case to a "higher court," the Board of Censors of the New York State Medical Society, which upheld the findings of the Censors of the Queens County Medical Society. Next the decision was presented, for confirmation or rejection, to the House of Delegates of the State Society, representing more than 20,000 doctors of New York state. The delegates confirmed the findings of the state's Board of Censors. Dr. Landess then appealed his case to the A.M.A. The Judicial Council in its ruling expressed an opinion contrary to that of the House of Delegates of the New York State Society.

The Council's ruling said in part:

"It is important to note that the only question before the Judicial Council is whether Dr. Landess has violated the Principle of Medical Ethics of the A.M.A. pertaining to solicitation of patients by advertising. No charge of violation of any other ethic is made. . . .

"The following appears to be the basis of the decision that Dr. Landess violated the ethic pertaining to advertising: The Queens County Medical Society found that HIP advertised directly to the public and that by means of this advertising Dr. Landess 'directly benefits by the solicitation of patients. . . . inasmuch as the HIP solicits patients only for the groups of physicians which are contractually bound to it.'

"The action of the Queens County Medical Society does not deprive Dr. Landess of membership privileges at this time. The report specifically recommended that 'no action be taken against him,' and this report was adopted. The action was in reality an advisory opinion 'given for the information and guidance of the members of this society.' . . .

"There is no charge or any finding that Dr. Landess had anything to do with the preparation or distribution of the advertising or promotional material nor is there anything in the testimony or exhibits to substantiate any such conclusion. . . .

"We do not mean to imply by our decision in this appeal that a physician can ethically associate himself with an organization which is either unlawful or one which indulges in improper or unethical advertising, nor absolve himself from appropriate disciplinary action by complacence or indifference. . . ."

In the last paragraph of its decision the Council stated that an exhaustive study of medical care plans had been authorized by the A.M.A. Board of Trustees last December.

"The Judicial Council," the statement said, "is participating in this study which will include an analysis and review of the ethical and other problems arising out of the relationship between medical care plans, patients and physicians. The study referred to will include a thorough analysis of the HIP type of organization among others."

—A.M.A. Secretary's Letter

know your diuretic

will your cardiac patients be able to continue the diuretic you prescribe ?

uninterrupted therapy is the key factor in diuretic control of congestive failure. You can prescribe NEOHYDRIN *every day, seven days a week, as needed.*

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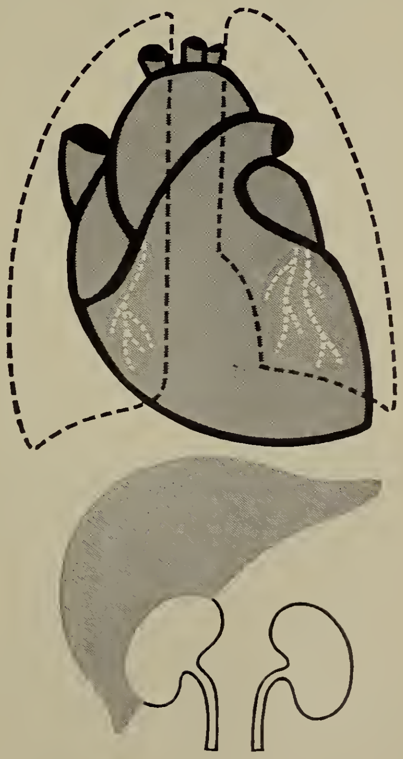
BRAND OF CHLORMERODRIN

(18.3 MG. OF 3-CHLOROMERCURI-2-METHOXY-PROPYLUREA IN EACH TABLET)

no "rest" periods . . . no refractoriness
acts only in kidney . . .
no unwanted enzyme inhibition
in other parts of the body.

standard for initial control of
severe failure MERCUHYDRIN® SODIUM
BRAND OF MERALLURIDE INJECTION



Leadership in diuretic research
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Tests Show Tobacco's Effect on Heart

New laboratory tests have shown that cigarettes have a definite, immediate effect on the action of the heart in both normal persons and those with heart disease, four physicians recently said.

They recommended in a recent issue of the *Journal of the American Medical Association* that heart disease patients should quit smoking entirely.

Significant increases in heart rate and blood pressure followed smoking of regular cigarettes by 65 persons tested, including both normal persons and those with coronary disease, according to Drs. Henry I. Russek and Virgil J. Dorset, Staten Island, and Dr. Burton L. Zohman, Brooklyn, all of the U. S. Public Health Service.

Another series of tests on 400 normal persons resulted in abnormal changes among 10 per cent, rising from 5 per cent in the 20-30 year age group to 15 per cent in the 30-40 year group. Dr. Isidore E. Buff, Charleston, W. Va., who made these tests, recommended that disease-free persons whose heart tests show abnormal results following smoking should quit. He could not say whether heart disease eventually would develop in these persons. But he said he felt that evidence so far makes it "highly

(Continued on Page 64)

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COOK COUNTY
Graduate School of Medicine
INTENSIVE POSTGRADUATE COURSES
STARTING DATES, SPRING 1955

SURGERY—Surgical Technic, Two Weeks, April 18, May 2
  Surgical Technic, Surgical Anatomy and Clinical Surgery, Four Weeks, June 6
  Surgical Anatomy and Clinical Surgery, Two Weeks, June 20
  Surgery of Colon and Rectum, One Week, May 9
  General Surgery, Two Weeks, April 25; One Week, May 23
  Gallbladder Surgery, Ten Hours, June 27
  Thoracic Surgery, One Week, June 6
  Esophageal Surgery, One Week, June 13
  Fractures and Traumatic Surgery, Two Weeks, June 13

GYNECOLOGY—Office and Operative Gynecology, Two Weeks, April 18, June 13
  Vaginal Approach to Pelvic Surgery, One Week, May 2

MEDICINE—Two-Week Course, May 2
  Electrocardiography and Heart Disease, Two Weeks, July 11
  Gastroenterology, Two Weeks, May 16
  Dermatology, Two Weeks, May 9
  Hematology, One Week, June 13

RADIOLOGY—Diagnostic Course, Two Weeks, May 2
  Clinical Uses of Radio Isotopes, Two Weeks, May 2
  Radium Therapy, One Week, May 23

PEDIATRICS—Intensive Course, Two Weeks, April 11
  Clinical Course, Two Weeks, by appointment
  Neuromuscular Diseases, Two Weeks, June 20

UROLOGY—Two-Week Urology Course, April 18
  Ten-Day Practical Course in Cystoscopy every two weeks

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℞ PRO-ACET
(Professional Acetum)

1. Buffered pH 4
2. Detergent (approved type)
3. Favorable Surface Tension (wetting action)
4. Leaves Residual Carbohydrates
5. Economical (approx. 3c per qt.)
6. Patient Acceptance

Formula for Pro-acet Concentrate: Citric Acid 2.5%; Acetic Acid 4.0%; Lactic Acid 2.0%; Sodium Lauryl Sulfate 3.0%; Dextrose 5.0%; Lactose (beta) 2.5%; Sodium Acetate 2.5%; Methyl Paraben 0.2%; all chemicals U.S.P. in a solution of Distilled Water.

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PRO-ACET
A Concentrate
PRO-ACET, INC.

Directions: To prepare vaginal douche add one teaspoonful of Pro-acet Concentrate to each quart of warm water and MIX WELL.

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Upjohn

Sex hormones—only one injection per month:

Depo-Estradiol

Trademark, Reg. U. S. Pat. Off.

CYCLOPENTYLPROPIONATE

Each cc. contains:

Estradiol, 17-Cyclopentylpropionate	1 mg. or 5 mg.
Chlorobutanol	5 mg.
Cottonseed Oil	q.s.

1 mg./cc. strength in 10 cc. vials
5 mg./cc. strength in 5 cc. vials

Depo-Testosterone

Trademark, Reg. U. S. Pat. Off.

CYCLOPENTYLPROPIONATE

Each cc. contains:

Testosterone Cyclopentylpropionate	50 mg. or 100 mg.
Chlorobutanol	5 mg.
Cottonseed Oil	q.s.

50 mg./cc. strength in 10 cc. vials
100 mg./cc. strength in 1 cc. and 10 cc. vials

Depo-Testadiol

Trademark, Reg. U. S. Pat. Off.

Each cc. contains:

Testosterone Cyclopentylpropionate	50 mg.
Estradiol, 17-Cyclopentylpropionate	2 mg.
Chlorobutanol	5 mg.
Cottonseed Oil	q.s.

10 cc. vials

The Upjohn Company, Kalamazoo, Michigan

Tests Show Tobacco's Effect on Heart

(Continued from Page 62)

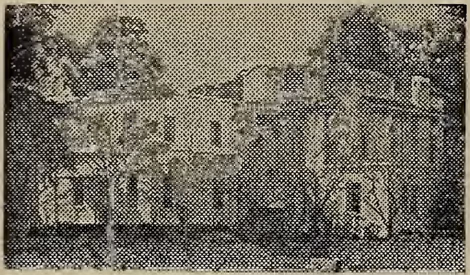
desirable that these patients stop using tobacco in any form."

The New York physicians said denicotinized cigarettes caused the same disturbances among heart disease patients as regular cigarettes. However, denicotinized cigarettes caused less abnormality in patients without disease who had unexplained symptoms similar to those in heart trouble, such as sweating, dizziness, headache, and irregular heartbeat. The presence of such symptoms is termed "tobacco heart," and can be confused with heart disease unless proper tests are made. In such patients tested, symptoms disappeared when smoking was stopped entirely.

The physicians tested 28 normal persons, all habitual smokers, ranging in age from 21 to 60 years. Nine of them had sought medical aid because of "heart" discomfort, and the other 19 reported they had noticed some symptoms after smoking. There were 37 patients from 42 to 70 years old with coronary disease. Of these, six were nonsmokers, 10 smoked occasionally, and 21 were heavy smokers.

After a two-hour nonsmoking period, the subjects smoked a cigarette and then were tested by an

(Continued on Page 76)



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1. DE PODRTER, D.: BRUXELLES-MED. 54:1010 (JUNE 7) 1954

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American Medical Association Replaces Seal Acceptance Program

The American Medical Association announced recently it is discontinuing its "seal" or "acceptance" program so it can provide more and faster information on new advances in medicine.

In an editorial in a recent issue of the *Journal of the American Medical Association,* the A.M.A. said acceptance seals still may be seen for a period while printed advertising matter is being used up, but "it is only a matter of time before an 'American Medical Association seal' is a thing of the past."

The familiar statement "Accepted for Advertising in the Publications of the American Medical Association" served a useful purpose, along with the acceptance by various American Medical Association product-evaluating councils of drugs, foods, devices, and cosmetics complying with their standards. However, the need for such programs has become less "as laws have been enacted and as manufacturers have assumed more and more their share of responsibility in marketing worth-while products."

The editorial said, therefore, that American Medical Association councils and the Board of Trustees for months have been studying better ways to increase the Association's service to the public and the medical profession.

"One of the programs seemingly in greatest demand by the profession is one that calls for more information on the more recent advances in health problems," the editorial said. "Various devices introduced in recent years have posed questions for true usefulness; new drugs have raised problems concerning their proper use and possible toxicity; cosmetic-type preparations have become complicated by the introduction of synthetically prepared ingredients, and nutrition, although long studied, has many phases in need of study and report.

"To meet the demand caused by the tremendously and broadly expanding horizon in diagnostic, curative, and preventive medicine is a problem of no small dimensions. Therefore, the Board of Trustees and the councils have decided to spend more time on this important phase of their work and to increase this work to match the need."

Briefly, the editorial said this is how the councils will expand their programs in the new direction:

They "will issue reports promptly and frequently on what is new in diagnostic, curative, and preventive medicine; they will periodically review the status of agents and techniques; they will develop basic standards for classes of goods as, for example, the Council on Physical Medicine and Rehabilitation has done for resuscitators and inhalators, and

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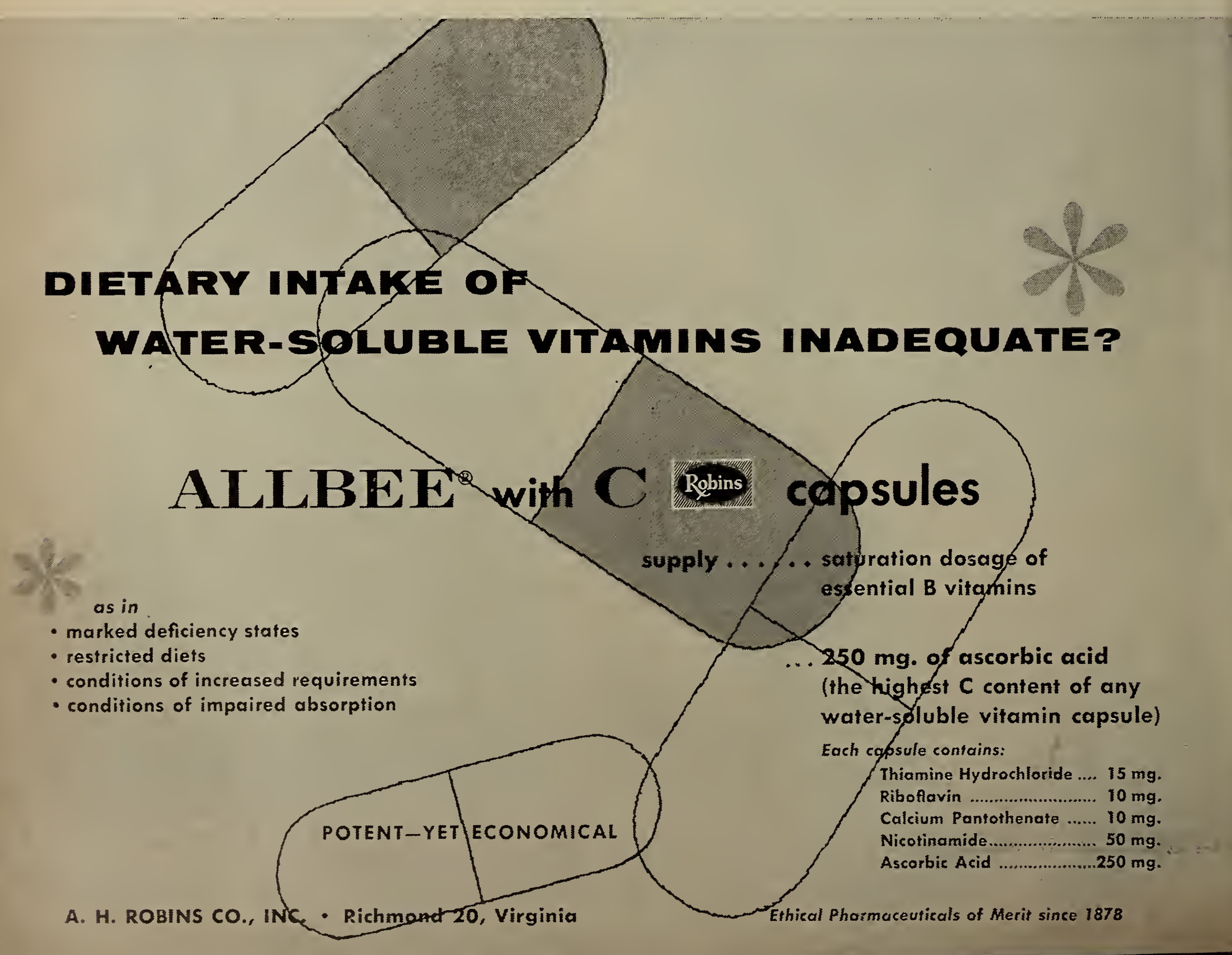

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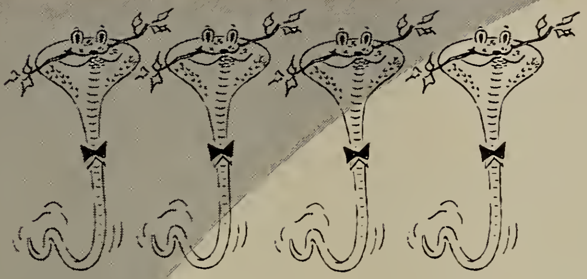

there are 4 Reasons Why MORE PHYSICIANS NOW RELY ON HYPERLOID

An increasing number of physicians are prescribing HYPERLOID (Persoń & Covey's standardized powdered whole root rauwolfia serpentina) for their patients. The reasons for their choice are:

1 In mild, labile hypertension, HYPERLOID produces a gentle, prolonged lowering of blood pressure in most cases without undesirable side effect and induces bradycardia, sedation and tranquility.

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3 Because of its sedative and tranquilizing actions, HYPERLOID is effective in many conditions in which the barbiturates have been commonly prescribed. These include tension, anxiety, stress, nervousness, irritability, hyperemotionalism, apprehension, insomnia and depression.

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Persoń & Covey

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American Medical Association Replaces Seal Acceptance Program

(Continued from Page 68)

they will undertake educational efforts to insure as much as possible the utilization of the information they gather, digest and evaluate."

The councils will publish this information in the *Journal*, issue books or booklets bringing the facts together "handily and usefully," and use other means for publicizing their findings.

In time the councils are expected to issue statements on their programs. Details on advertising principles also will be available.

Advertising copy for American Medical Association publications will continue to be given "careful scrutiny" and must meet the basic standards formerly required for seal acceptance, the editorial said.

In conclusion, the editorial said an "exciting challenge today faces all of medicine because of the swiftly moving pace of medical knowledge and the eagerness with which physicians and the public too await it. With their long years of experience the councils of the American Medical Association are in a unique position to provide the leadership required. They are to be commended for their prompt response to the challenge. Both doctors and patients will benefit from it."

Physicians Spend Hours Just "Keeping Up"

The average American physician, who puts in a 60-hour work week, spends about 10 hours a week just keeping up his education, an American Medical Association survey shows.

Even with this schedule, most physicians surveyed said they wished it were possible to spend much more time keeping up to date with medical progress.

Dr. Douglas D. Vollan, assistant secretary of the A.M.A. Council on Medical Education and Hospitals, reported on the survey of the physician's career-long education in a recent issue of the *Journal of the American Medical Association.*

"Every year, every month, and every day brings new changes in the panorama of knowledge of human biology, human disease, and related scientific fields," Dr. Vollan said. "With this knowledge comes new skill in the prevention, diagnosis, and treatment of the ills that plague mankind. . . . What may have been acceptable treatment for one condition 20 years ago might now be considered less than worthless."

For this reason, it is "absolutely essential" for the physician to continue his education as long as he practices medicine. The council survey found out from about 5,000 physicians and numerous postgraduate education facilities just how it's done.

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The surveyed physicians said they spend a yearly average of 667 hours (about 83 eight-hour days) in the five general fields of learning after college—reading, professional contacts with other physicians, attending hospital staff meetings, going to medical society meetings, and taking formal postgraduate courses.

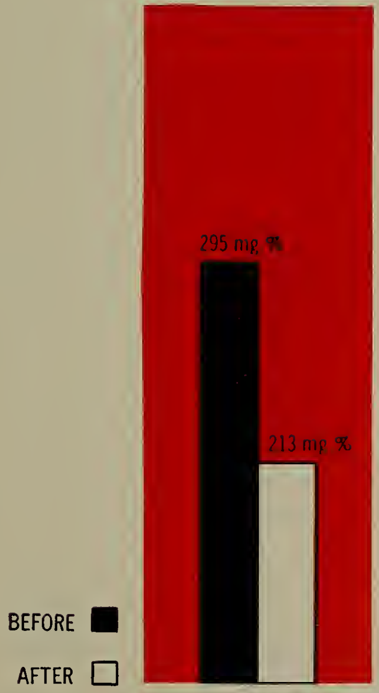
This 667 hours composes about 22 per cent of the average physician's total professional activity. A third of this time is spent in medical reading. Most physicians said reading is the most important way to learn, and wished they had more time for it. Another third of the time is in professional contacts with other physicians, since "bedside consultation" is probably one of the best ways to learn. About a fourth of this time is taken up by hospital staff meetings and other conferences. Five per cent is devoted to medical society meetings, and another five per cent to postgraduate courses. Physicians spend from one day to as much as three months a year taking courses, which they ranked second in educational importance. Those surveyed said they would like to spend 200 per cent more time in postgraduate courses.

The study showed that 1,481,061 physician-hours were spent in class for 1952-53, but Dr. Vollan said it also showed that this was not enough. The results of the study indicated that one week or 50 hours of postgraduate medical education a year is a "reasonable amount" to allow physicians to keep up with medical progress. This, of course, is in addition to reading, professional contacts, and medical society meetings. It would take about 215,500 more teaching hours to properly fill the need, he said. An equally important need is better distribution of courses throughout the country, rather than concentration in areas such as New York, Chicago, other major cities, and the West Coast.

Summing up, Dr. Vollan quoted a comparison of the American physician "to a shiny new automobile, the product of a very large initial investment but one that requires constant care, repair, and refueling in order to do the job for which it is intended."

C.M.A. Annual Session

Emergency Calls and Messages. Each physician should notify his own secretary regarding the *exact* section he plans to attend and the time of his attendance. It is up to the individual physician to keep his own office staff so informed. The Association will *attempt* to transmit messages to the individual physician.



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1. *Albert, A., and Albert, M.: Texas State J. Med.* 50:*814 (Dec.) 1954.*
2. *Sherber, D.A., and Levites, M.M.: J.A.M.A.* 152:*682 (June 20) 1953.*

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For many years clinicians and surgeons have recognized the therapeutic value of the high protein dietary.

In more than normal amounts, protein is essential in the treatment of many diseases characterized by hypoproteinemia[1]—nephrosis,[2] sprue, pellagra, chronic colitis, certain liver afflictions,[3] anorexia of diverse etiologies. High protein intake helps to stabilize tissue protein in diseases in which protein catabolism is increased, such as hyperthyroidism and protracted high fever. Dietaries high in protein promote wound healing in the surgical patient and speed convalescence.[4] Sufficient protein ingestion constitutes a protective measure in the geriatric patient.[5] Large amounts of protein are required to satisfy the growth and other metabolic needs of the pediatric patient.

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1. Taggart, H. A.: Protein Metabolism in Relation to Nutritional Aspects of Medical Diseases, Pennsylvania M.J. *54*:339 (1951).
2. Marquardt, G. H.; Cummins, G. M., and Fisher, C. I.: Blood Protein Replenishment in Treatment of Nephritic Edema, Quart. Bull. Northwestern Univ. M. School *26*:140 (1952).
3. Kark, R. M.: Low Sodium and High Protein Diets in Laennec's Cirrhosis, M. Clin. North America *35*:73 (1951).
4. Kekwick, A.: Protein Deficiency in Surgical Patients, Ann. Roy. Coll. Surgeons England *7*:390 (1950).
5. Stieglitz, E. J.: Nutrition Problems of Geriatric Medicine, Report of Council on Foods and Nutrition, J.A.M.A. *142*:1070 (Apr. 8) 1950.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

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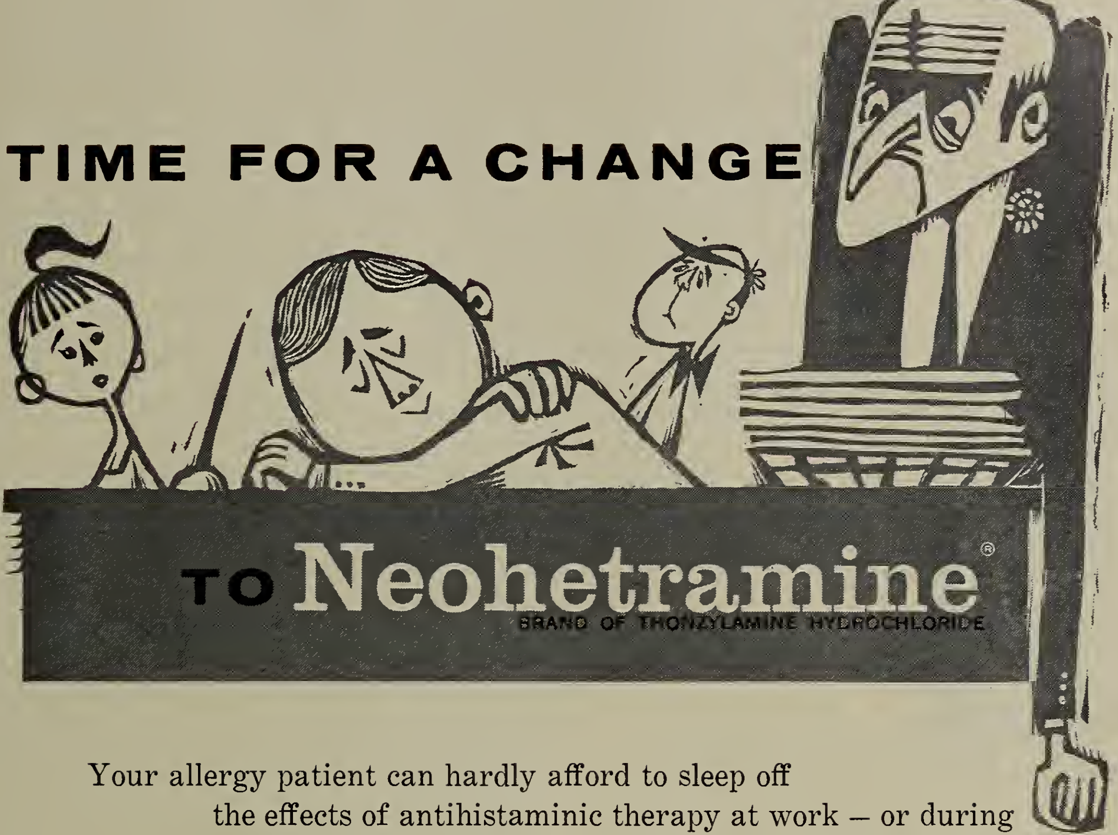

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Dosage: Initiate with 50 mg. tablets or syrup, two to four times daily for adults, 25 mg. two to four times daily for children, and increase according to individual response.

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Tests Show Tobacco's Effect on Heart

(Continued from Page 64)

electrocardiograph and a ballistocardiograph, which measures the impact on the body of the heart's thrust as it pumps blood. After smoking, 25 of the 28 apparently healthy subjects showed increased heart rate and two a decrease, while 20 showed increased blood pressure and five a decrease.

Among the 37 heart disease patients, 30 showed increased heart rate and four showed a decrease, while 34 had increases in blood pressure.

The physicians said there seems to be a difference in the mechanism of abnormal changes in heart disease patients, normal persons, and those with "tobacco heart."

In heart disease patients, the disturbance seems to result from weakness in the heart muscle which smoking brings to light by constricting blood vessels throughout the body. In "tobacco heart" patients, the changes apparently reflect a poisonous effect of nicotine on the heart muscle or nerve cells. The amount of nicotine in the cigarette makes a difference only in this type of patient. The physicians also debunked the notion that whiskey counteracts the effect of tobacco on the heart, but said it has a

(Continued on Page 108)

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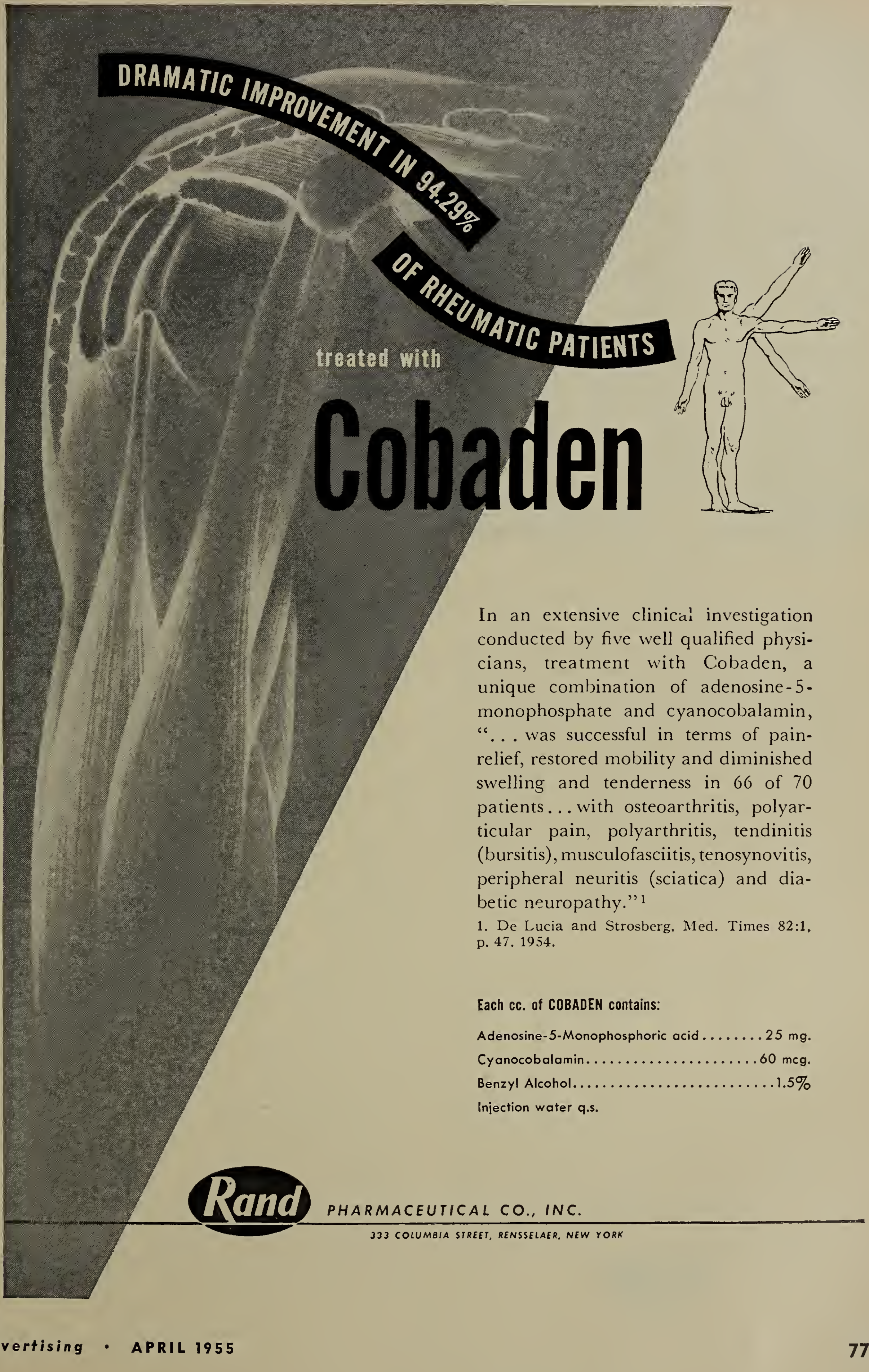
C.M.A. ANNUAL SESSION PROGRAM

MAY 1-4 1955

- *Please refer to the March 1955 issue of California Medicine for complete program*



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[1] De Lucia and Strosberg, Med. Times 82:1, p. 47. 1954.

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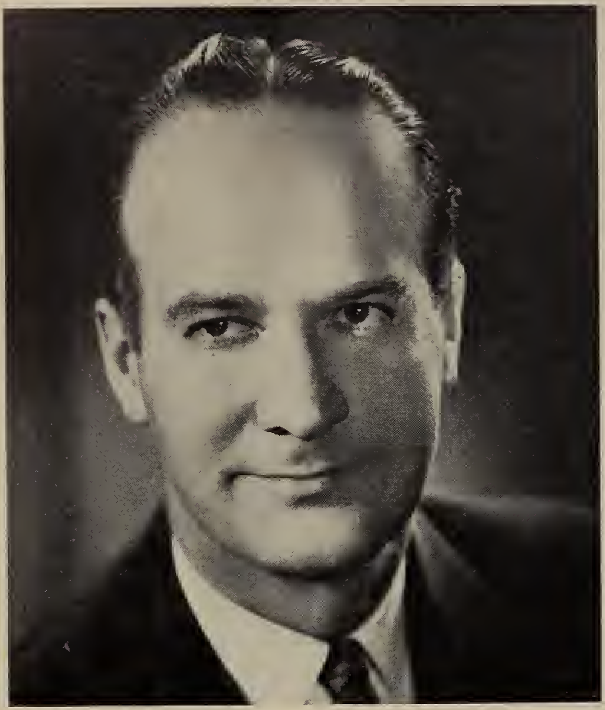
Fourth in a series of salutes to the pharmaceutical representative



FRANK M. WINSOR, *V.I.P.*

This month, Doctor, we'd like you to know another Very Important Person to Boyle & Company . . . Frank Winsor.

A background of public relations work and a natural interest in pharmaceuticals, stemming from a family long identified with medicine, have fitted Frank well for his role as a Boyle representative.

Born in Minneapolis, "Win" was an outstanding athlete at the University of Wisconsin, winning honors in football, track and basketball. Today he concentrates on golf, has garnered three championships in two states. Sharing his enthusiasm for the game, his wife Shirlee is frequently seen on the links with the wives of Frank's doctor friends. She's also busy in church and civic work in addition to homemaking for Frank and their two small youngsters.

From his suburban home in Sugar House just outside Salt Lake City, Frank calls on doctors throughout Utah and Southern Idaho to keep them informed of the developments and improvements in Boyle & Company's many products. Like all Boyle representatives, he is serious about his career, has trust in his company, believes that the more thorough his knowledge of their products, the better he can serve the medical profession.

When Frank Winsor, or the Boyle representative in *your* area, calls on you, Doctor, you'll find him to be serious, concise and thorough in his presentation. He knows your time is limited, so he'll make his visit short and to the point. He'll want to discuss with you the products shown on the succeeding pages. He'll welcome any comments or questions you may have concerning them . . . or any Boyle product.

BOYLE

700 Attend Congress on Medical Education

A uniform medical practice act, legal medicine in undergraduate medical education, the role of television in postgraduate medical education and the future of the internship were among the major topics of discussion at the 51st Annual Congress on Medical Education and Licensure held recently at the Palmer House in Chicago.

Almost 700 medical educators, practicing physicians, and members of state medical boards and specialty boards attended the four-day meeting sponsored by the American Medical Association Council on Medical Education and Hospitals, the Federation of State Medical Board of the U. S. and the Advisory Boards for Medical Specialties.

On the final day of the meeting, four different groups—the Federation of State Medical Boards of the U. S., the Association of American Medical Colleges, the American Hospital Association, and the A.M.A.—recommended adoption of a program which would put foreign trained physicians practicing in this country on the same level with American trained doctors. Final adoption of the proposed program now rests with the governing bodies of each of the four groups.

Under the plan, foreign-trained doctors, before they could practice in the United States, would have to take an examination in basic medical sciences and major clinical sciences. They would have to have at least 18 years of education, including 32 months in medicine, exclusive of time devoted to what is considered premedical or internship training here.

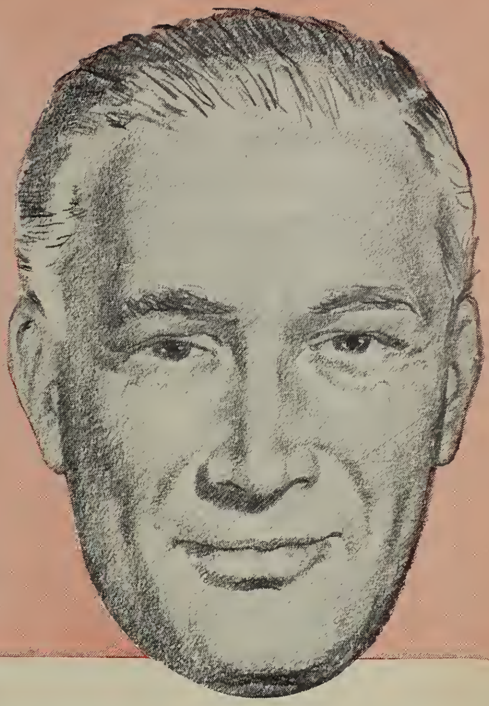
A preliminary screening would be utilized to eliminate candidates who do not demonstrate adequate facility in the use of English and who do not give evidence of having reached the level of educational attainment comparable to that of students in American schools at the time of graduation.

The federation approved in principle a draft of a uniform medical practice act which contained recommendations for a definition of the practice of medicine, standards of eligibility for licensure, examinations, reciprocity and endorsement, grounds for probation, suspension, or revocation of licenses and forms for reciprocity and endorsement procedures. The approved draft is intended as a guide only and is not obligatory on any state. The federation also voted to continue the work of the study committee which prepared the recommendations.

The federation at its closing session adopted a resolution declaring that "the Federation of State Medical Boards insists on the present standards of educational competence and condemns the policy of appointing interns to hospital positions who are not graduates of accredited medical schools."

The entire opening day program of the congress was devoted to a symposium in which 21 speakers

(Continued on Page 86)



In this...

"the Commonest Disease of Civilized Man"

- In hypertension, management can now be started in the earliest stages . . . to retard progression, with the goal of prolonging useful life.

- Fully one half of all cases of mild, labile hypertension can be controlled with simple Rauwiloid therapy.

- Rauwiloid accomplishes what mere sedation cannot . . . the patient is spared the reaction to tension situations . . . without somnolence, without clouded sensorium, without change in alertness.

- The feeling of well-being engendered by Rauwiloid (mixed alkaloids of Rauwolfia serpentina) may become manifest as soon as 24 to 48 hours after the first dose. Its antihypertensive effect becomes apparent in two to three weeks.

- In the face of tension-producing stimuli, Rauwiloid, through its sedative and bradycrotic properties, provides tranquil equanimity.

- Its dosage schedule is uncomplicated, definite, easy to follow: Merely two 2 mg. tablets at bedtime. For maintenance, 1 tablet usually suffices. No contraindications.

Rauwiloid® First Thought IN HYPERTENSION

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Doctors CAN and DO Talk with the Press

By **HOLLEN HYNDMAN**
Asst. Director, Press Relations, American Medical Assn.

The physician and the reporter are alike in the respect that both will fight against odds; one for the recovery of his patient, the other to obtain news for the public.

Too often these odds have been conflicting and compounded by actions of both physicians and reporters. Physicians have refused to release information about a patient, have objected to a request for an explanation of an unusual operation or have made themselves "unavailable" to reporters on anything concerning medicine. Rebuffed by such experiences, reporters have used other sources: subterfuge to enter hospitals and hospital rooms, police officials to get information for them on a nonpolice case or acceptance as factual, information they are able to wheedle from any employee of the doctor or hospital.

The physician can be blamed only when he has not taken the time nor made an attempt to explain to the reporter that the physician could be considered unethical for providing this information. The American Medical Association's Principles of Medical Ethics specifically states that the physician should seek the guidance of appropriate officials or designated spokesmen of his state or county medical group before releasing information to the press.

This can be a mere notification that a reporter has contacted the physician and that he plans to furnish the information requested. This is in no means a manner of censorship or suppression of news but a method to protect the doctor from accusations of personal aggrandizement, publicity seeking or advertising—all unethical.

This method has evolved from the consideration that the physician-patient relationship has been the foundation of the great medical tradition from antiquity to the present. In other words, the doctor's knowledge of his patient is as sacred as the confessional and older in tradition.

The problems of the physician and the reporter concerning patient information originated about 300 B.C. when Hippocrates, the great Greek physician, wrote the Hippocratic Oath, which every doctor subscribes to today.

Hippocrates, in setting down the relationship between the physician and his patient, wrote:

"Whatever in connection with my professional practice or not in connection with it, I may see or hear in the lives of men which ought not to be spoken abroad, I will not divulge, as reckoning that all such be kept secret."

Actually, doctors have taken vows since the beginning of recorded writing. The earliest known code was chiseled on stone tablets in 2200 B.C. by Hammurabi, the king of Babylon. Except for the Hippocratic Oath, it was not until 1803 that the first formal code of ethics was submitted to the English medical profession.

This was written by Dr. Thomas Percival, a writer of philosophic essays and commentaries on medical life. He wrote a series of ethical principles after an argument occurred in a Manchester, England, hospital where he worked.

Twenty years later, the New York State Medical Society adopted a code of ethics very similar to Percival's. A code for all American doctors was adopted at the first meeting of the American Medical Association in 1847.

This code contained sections quite similar to the present A.M.A. Principles of Medical Ethics. It termed public advertising and the publishing of cases and operations in newspapers and magazines as "derogatory to the dignity of the profession."

So from the beginning of medicine, the physician has been bound by medical ethics and his primary responsibility to the welfare of his patient from revealing information that can be considered news.

Medical news has been of more than general interest to the public for many years. In fact, an 1891 issue of the *Journal of the American Medical Association* stated editorially, "It is apparent to even the careless reader of the daily newspapers that medical topics are receiving vastly more attention than ever before."

But progress has been exceedingly slow in furnishing more medical news to the public through the newspaper, magazine, radio and now television. Undoubtedly, more has been accomplished in this field during the past five years than during the entire previous history of medicine.

Most of the top newspapers today have their own medical or science writers who daily produce outstanding articles informing the public of the accomplishments of the physician, the hospital, the nurse, the medical school and the research worker. They have obtained much of this material from working through public relations committees or departments of medical societies, the universities and the hospitals. This medical public relations activity is comparatively new. And during recent years, great numbers of persons have been employed in the medical public relations field—many of them former newspapermen—to aid reporters in obtaining the desired information within the framework of the Principles of Medical Ethics.

In the fall of 1947, Dr. John S. Bouslog of Denver, then president of the Colorado State Medical Society, conceived an idea which brought about a new era in medical public relations.

He recognized that there were areas of misunderstanding and lack of cooperation between medicine and the press, but he felt all of these problems could

(Continued on Page 90)

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1. Grayzel, H. G., Heimer, C. B., and Grayzel, R. W.: New York St. J. M. 53:2233, 1953.
2. Heimer, C. B., Grayzel, H. G., and Kramer, B.: Archives of Pediatrics 68:382, 1951.
3. Behrman, H. T., Combes, F. C., Bobroff, A., and Leviticus, R.: Ind. Med. & Surgery 18:512, 1949.
4. Turell, R.: New York St. J. M. 50:2282, 1950.

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California Medical Association Annual Session May 1-4, 1955

Registration. Registration and information desks are located at the Main Entrance of the Civic Auditorium, Grove Street. *All members, guests, and visitors are requested to register immediately on arrival.* There is no charge for registration. Registration desks are open from 9:00 a.m. to 5 p.m. *Admission to the general and section sessions and exhibit areas is by badge only.*

Qualifications/Requirements for Registration. (a) All M.D.'s with credentials showing that they hold valid license to practice medicine. (Membership card in C.M.A.; county medical society/association or A.M.A. membership card.) (b) Medical students will be admitted upon presentation of credentials from their medical schools identifying them as medical students. (A membership card of the Student American Medical Association or letter from their dean's office.) (c) Medical secretaries will be admitted upon presentation of a letter from the physician-employer. (d) Pharmacist mates and other military personnel of a like grade will be admitted upon presentation of a letter requesting their admittance, written by their commanding officer. (e) Dentists (D.D.S.), doctors of veterinary medicine (D.V.M.), registered nurses (R.N.), student nurses, x-ray technicians, laboratory technicians, detitians, allied public health personnel, and others will be admitted provided they have proper identification. (f) *All questions on admission will be passed upon by a member of the Committee on Registration who will be present at the desk.*

700 Attend Congress on Medical Education

(Continued from Page 78)

discussed the potentialities of television in postgraduate medical education and the practical methods and techniques of using television. Dr. John W. Cline of San Francisco, A.M.A. past president and a member of the Council on Medical Education and Hospitals, gave the keynote address and said that "television can be used to teach physicians with a minimum loss of time away from practice and so deserves the serious consideration of medical educators."

Six participants in a panel on legal medicine urged that medical students be given sufficient training to make them aware of the many medicolegal problems which can occur in modern practice and of the ways to prevent unnecessary legal situations.

Dr. Franklin D. Murphy, Chancellor of the University of Kansas, presided over a symposium in which six speakers discussed the question of whether or not the internship should be eliminated as a phase of modern medical education. Majority opinion in both the panel and the audience seemed to favor retention and improvement of the internship.

—*A.M.A. Secretary's Letter*

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CLASSIFIED ADVERTISEMENTS

(Continued from Page 80)

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Tuberculosis Can Still Occur in Classrooms

Despite sharp declines in tuberculosis incidence among children, outbreaks still can occur, an editorial warns in a recent issue of the *Journal of the American Medical Association.*

"When physicians, educators, public health personnel, and parents understand each other's responsibility for child health and are willing to work with each other, such tragedies as contracting tuberculosis in the classroom can be prevented," the editorial said. "Teamwork also will permit the promotion of good health among children now in school."

A recent diagnosis of active tuberculosis in a six-year-old girl led to the disclosure of three other infected first graders. Further investigation showed that their apparently healthy young teacher had the disease. The community where this occurred is now organizing for protection. Representatives of the local medical society, the health council, the parent-teachers association, the local tuberculosis association, and the school and health departments are working together.

"Few know that tuberculosis in a child makes him more liable to a more destructive form of the infection in later life," the editorial said. "Yet tuberculosis is only one of the many problems of child health in which physicians and medical societies can be most productive when they work in close cooperation with the schools, health departments, parent groups, and voluntary agencies concerned with the health protection of children."

Fifty-Year Survey Shows Advances In Medical Education

By 1960, the nation's medical schools should be graduating from 7,300 to 7,500 physicians each year, according to a recent report.

Dr. Edward L. Turner, secretary of the Council on Medical Education and Hospitals of the American Medical Association, made the estimate in a recent issue of the *Journal of the American Medical Association.* He based the prediction on projections of admissions and graduates of approved medical schools and of new schools being developed.

In the past 54 years the nation's population doubled while approved medical school graduations increased 114.6 per cent. Enrollment in medical schools increased from 12,530 to 28,227; graduates increased from 3,165 to 6,861.

Two common misconceptions about medical schools were contradicted by Dr. Turner from facts in a study of the past 50 years. He said that while there were more medical schools and more gradu-

(Continued on Page 100)

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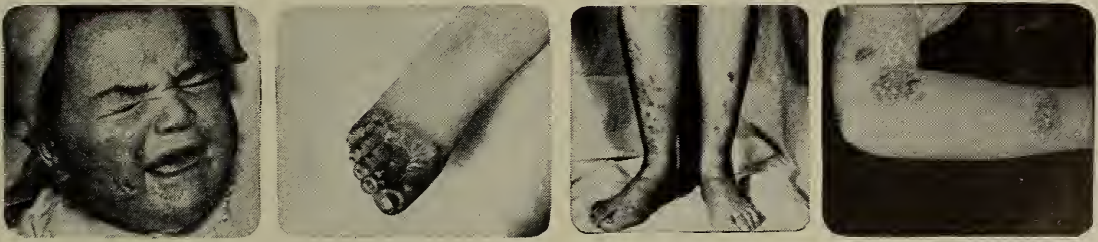

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Doctors CAN and DO Talk with the Press

(Continued from Page 84)

be solved by mutual understanding and frank discussion.

So the state medical society held a series of dinner discussions attended by representatives of newspapers, radio stations, magazines and the medical profession. During the dinners, newsmen and physicians and hospital administrators became acquainted and realized that the other fellow wasn't such a bad guy after all.

These discussions resulted in formation of a committee to develop a code of cooperation. After several committee meetings the code was approved. Everyone agreed that it probably wasn't perfect and and that if it were to work, it would require a good deal of cooperation and understanding. The Colorado code has been the model for all other press codes or guides created.

In outlining the responsibilities of the physician, the medical society and the hospital toward the press, the code states:

"In matters of private practice, the wishes of the attending physician or surgeon shall be respected as to use of his name or direct quotation, but he shall give information to the press and radio where it does not jeopardize the doctor-patient relationship or violate the confidence, privacy or legal rights of the patient. . . ."

One of the most significant sections provides that "officers, committee chairmen or designated spokesmen of the Colorado State Medical Society may be quoted by name in matters of public interest for purposes of authenticating information given."

This is a decided departure from previous ideas that any mention of a physician's name in a news column might be considered a form of advertising. And to emphasize this, the code adds that use of physicians' names "shall not be considered by their colleagues as a breach of the time-honored practice of physicians to avoid personal publicity since it is done in the best interest of the public and the profession."

Thus qualified sources are now available for the reporter who previously had to dig for facts and run into blind alleys that he unwittingly did not know were caused by medical ethics.

The code also sets down what information is to be provided in accidents or other emergencies, in the cases of illness of a well-known personality or in the case of unusual injury, illness or treatment. Generally, the information to be supplied by the physician includes the nature of the injuries when ascertained, the degree of seriousness and the current condition of the patient.

When an unusual illness, injury or treatment takes place the physician also is to provide any "scientific

(Continued on Page 98)

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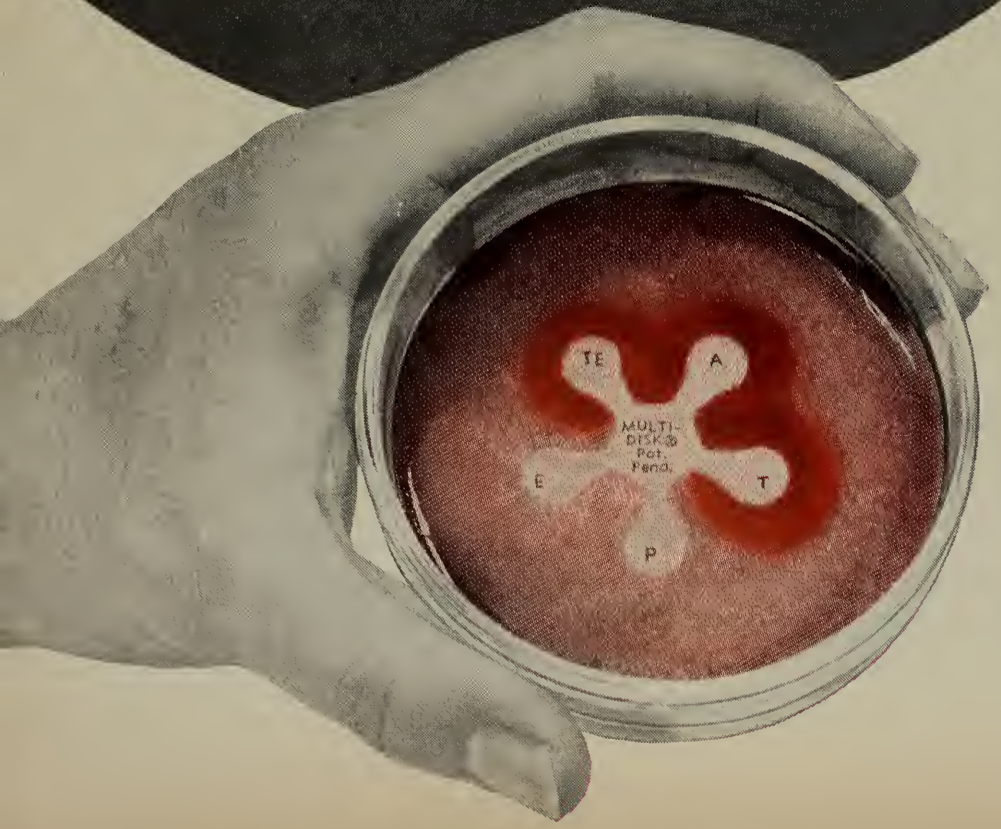

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New Theory May Open Way for Tissue Transplants

New evidence about the way the body reacts to disease organisms might pave the way for successful transplants of skin and even other tissues.

Two Minneapolis physicians recently said that previous approaches to the problem of transplanting skin or organs have given "little hope for the surgeon dreaming of ultimate organ transplantation." Their theory that the body's reaction to germs prevents transplants may result in discovery of more successful transplanting methods, they said.

Drs. Robert A. Good and Richard L. Varco reported in a recent issue of the *Journal of the American Medical Association* that they succeeded in transplanting skin on the leg of a patient with agammaglobulinemia. Persons with this disease have a virtually complete "immunologic paralysis" —that is, their systems do not build up normal defenses against disease and infections.

The physicians said a transplant of skin from their patient to a normal child who had been badly burned was a failure. They said this was not surprising; transplants of skin almost always are destroyed or replaced by the growing of new skin. Except for a few questionable instances, skin transplants have been successful only between identical twins and among experimental animals. However, transplants from an unrelated normal person to the agammaglobulinemia patient "took" successfully and after 18 weeks could hardly be distinguished from the patient's own skin. It was still intact 11 months later.

They said the only difference between this patient and normal persons was his inability to build up immunity to disease or infection. They concluded that this inability was the reason the skin transplant succeeded while others failed. Animal experiments have provided evidence that supports their theory, they said.

"A substantial obstacle to current medical and surgical progress is the established fact that tissues and organs from one person transplanted to another will not survive," they said. Recent investigations on transplants have been based on the theory that failure is due to skin "groups" which, like blood groups, may be opposed to each other and resist blending. However, the physicians said, the complexity of this approach "might be overwhelming," and gives little hope for the possibility of eventual organ transplantation.

The Minneapolis physicians said a "more fruitful approach to the problem might be to concentrate on the search for a way to control the body's production of antibodies against disease. While this mechanism has been suspected as a factor in transplant failure, proof has been lacking. They said their successful skin graft is "strong evidence" in favor of the theory, which might eventually lead to "universal" transplantations of skin and other tissues.

Medicine Alone May Not Conquer Syphilis

Medicine has almost won the battle against syphilis but medicine alone cannot completely finish the job.

What is needed is discovery and treatment of unknown cases and prevention of new infections, physicians report.

A review of more than 250 publications on the disease last year indicates that although "great strides have been made in venereal disease control, complete control is far from being accomplished."

The review appeared in a recent issue of *Archives of Internal Medicine,* published by the American Medical Association. It was written by Drs. Herman Beerman. Ira L. Schamberg, Leslie Nicholas, Philadelphia, and Lawrence Katzenstein, Wilmington, Del., with the help of Drs. T. Guthe and C. J. Hackett, Geneva, Switzerland.

They said penicillin, sometimes in only one-shot form, has made treatment of some forms of syphilis easier and more effective. But the review said the sharp decline of reported syphilis since the development of penicillin may not be "real" or lasting.

It has been estimated that some 2,000,000 untreated cases of syphilis are going unnoticed. Reported syphilis may show a decline simply because many cases are not known by health officials. What is worse is that early latent syphilis seems to be slipping undetected into the second, more serious stage.

It's no longer really a medical problem, some physicians feel. Public education and cooperation helped make possible the successful use of new scientific discoveries. Now the "potential and actual" comeback of syphilis suggests "a critical need" for reeducation in control and prevention.

Control depends on early diagnosis and treatment. The death rate "for the next few decades will depend largely on the discovery and treatment" of thousands still at large in symptom-free stages. Tracing immediate contacts is not enough. Close relatives of congenital cases must be examined as well as spouses and children of all persons with positive blood tests.

Prevention is largely a matter of controlling promiscuity. If the program is to work, "efforts must be directed toward motivating and modifying human sexual behavior to socially and ethically accepted standards."

The long-term outlook "does not justify any relaxation of vigilance or abandonment of special efforts against syphilis," the review stated. It suggested that "every public-health-minded citizen" should think about the problem of venereal disease control funds, which may be cut because the problem seems to be in hand. The American Venereal Disease Association, the Association of State and

(Continued on Page 98)

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Doctors CAN and DO Talk with the Press

(Continued from Page 90)

information which will lead to a better public understanding of the progress of medical science."

And in these cases, the physician is expected to recognize the possible public interest and to "notify the designated spokesman of his local medical society at once for immediate communication of appropriate information to the press and radio."

In effect, the physician has become a reporter for the reporters.

—*Editor & Publisher for January 29, 1955*

Medicine Alone May Not Conquer Syphilis

(Continued from Page 96)

Territorial Health Officers, and the American Social Hygiene Association have urged maintaining a $10,000,000 Federal budget for venereal disease control. They said present allocations are inadequate.

Another problem is international control of the venereal disease spread. The World Health Organization and the United Nations International Children's Emergency Fund in Yaws Control are leading world agencies working in venereal disease control, and the problem is "of international impor-

(Continued on Page 108)

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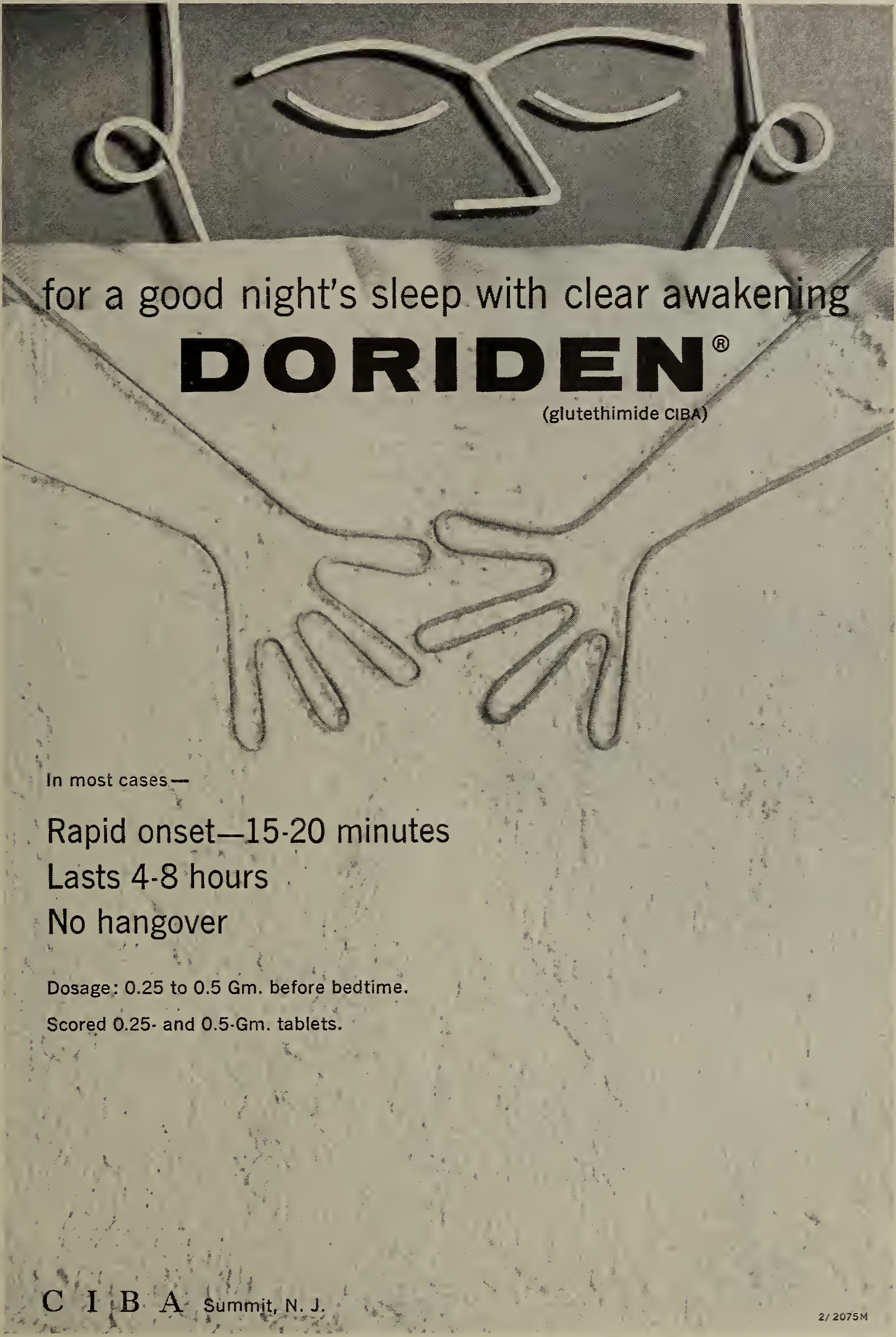

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Fifty-Year Survey Shows Advances In Medical Education

(Continued from Page 88)

ates in 1900 than at present, one fact should be remembered: many of the turn-of-the-century medical schools were "little more than diploma mills." Only about a third of them could offer education that met acceptable standards for medical practice.

In 1910, however, an analysis of schools "revolutionized" medical education. Since then major medical groups have worked together in "developing and maintaining the highest possible standards of medical education in the United States in the interests of the American public," he said.

"Contrary to a common misconception, these organizations have not endeavored to control the number of physicians graduated by the schools," he said. "They have advised against medical schools undertaking to admit more students than their faculties or facilities could possibly justify, if they were to be properly educated."

Dr. Turner explained the confusion which "gave rise to wild distortions . . . that only one applicant out of ten or more could possibly get into a medical school."

Actually, in 1953-54, one out of every 1.97 applicants was admitted to an approved medical school. The confusion came from the fact that there were only 14,678 premedical students applying for admission—but they filed 48,556 applications. In other words, every student seeking to get into medical school applied to an average of 3.3 schools.

The 50-year study showed that "approved medical schools have increased their production of physicians through increased student enrollment as their finances, facilities, and faculty personnel have made such expansion possible," Dr. Turner said. "It is hoped, however, that none of them will endeavor to enroll more students than they can effectively educate into well-qualified young physicians."

Five more schools now are being developed. The University of California at Los Angeles will be the first to graduate a class, in June 1955. The others are the University of Miami, Albert Einstein College of Medicine, in New York City, Seton Hall College of Medicine, in Jersey City, N. J., and the University of Florida in Gainesville. The medical schools of the universities of Mississippi, Missouri, and West Virginia are expanding from two-year to four-year schools. All eight of these will be graduating physicians by 1960, so there should be 7,300 to 7,500 physicians produced annually from approved schools by that time. This does not include those who would be added by the development of new schools now being considered.

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BOOKS RECEIVED

ABNORMAL PNEUMOENCEPHALOGRAM, THE—Second Edition. Leo M. Davidoff, M.D., Professor and Chairman, Department of Surgery, Albert Einstein College of Medicine; and Bernard S. Epstein, M.D., Chief, Department of Radiology, Long Island Jewish Hospital, Lea & Febiger, Philadelphia, 1955. 518 pages, $15.00.

ADVANCES IN PEDIATRICS—Volume VII, 1955. S. Z. Levine, Cornell University Medical College, Editor. The Year Book Publishers, Inc., 1955. 351 pages, $8.00.

AMPUTATIONS. Leon Gillis, M.B.E., M.B., B.Ch.(Witwatersrand), M.Ch.Orth.(Liverpool), D.L.O.(London), F.R.C.S. (England), F.R.C.S. (Edinburgh). Hon. F.I.C.S. (Geneva), Grune & Stratton, New York 1954. 423 pages, $12.75.

AN OUTLINE OF THE TREATMENT OF FRACTURES—Revised and Amplified Fifth Edition, 1954. Committee on Trauma, American College of Surgeons, 40 East Erie Street, Chicago 11, Illinois, 1954. 93 pages, $1.00.

CHILDBIRTH—THEORY AND PRACTICAL TRAINING. Marjorie F. Chappell, D.N.(London), S.R.N. E. & S. Livingstone, Ltd., London, 1954. 128 pages, $2.50.

CHRISTOPHER'S MINOR SURGERY—7th Ed. Alton Ochsner, M.D., F.A.C.S., William Henderson Professor of Surgery and Chairman of the Department of Surgery, Tulane University School of Medicine; and Michael E. DeBakey, M.D., F.A.C.S., Professor of Surgery and Chairman of the Department of Surgery, Baylor University College of Medicine, W. B. Saunders Company, Philadelphia, 1955. 547 pages, 251 illustrations, $9.00.

COAGULATION OF BLOOD, THE—Methods of Study. Edited by Leandro M. Tocantins, M.D. Grune & Stratton, New York, 1955. 240 pages, $5.75.

CURRENT THERAPY 1955—Latest Approved Methods of Treatment for the Practicing Physician. Howard F. Conn, M.D., editor. W. B. Saunders Company, 1955. 692 pages, $11.00.

DOCTORS IN THE SKY—The Story of the Aero Medical Association. Robert J. Benford, M.D., Colonel, Medical Corps, United States Air Force. Charles C. Thomas, Publisher, 301 East Lawrence Ave., Springfield, Ill., 1955. 326 pages, $8.75.

EARLY CARE OF ACUTE SOFT TISSUE INJURIES. Committee on Trauma, American College of Surgeons, 40 East Erie Street, Chicago 11, Illinois, 1954. 192 pages, $1.00.

FRACTURES IN CHILDREN. Walter Putnam Blount, A.B., M.D., F.A.C.S., Chairman of the Orthopedic Section, Milwaukee Children's Hospital; president, 1955, American Academy of Orthopaedic Surgeons. Williams & Wilkins Co., Baltimore, Maryland, 1955. 279 pages, $9.50.

FRAGMENTS OF AN ANALYSIS WITH FREUD. Joseph Wortis. Simon and Schuster, New York, 1955. 208 pages, $3.00.

PERIPHERAL VASCULAR DISEASES—Second Ed. Edgar V. Allen, B.S., M.A., M.D., M.S. in Medicine, F.A.C.P.; Nelson W. Barker, B.A., M.D., M.S. in Medicine, F.A.C.P.; and Edgar A. Hines, Jr., B.S, M.A., M.D., M.S. in Medicine. All from the Section of Medicine, Mayo Clinic. With Associates in the Mayo Clinic and the Mayo Foundation. W. B. Saunders Company, Philadelphia, 1955. 825 pages, 316 illustrations, 7 in color, $13.00.

PHYSIOLOGICAL BASIS OF MEDICAL PRACTICE, THE—A Text in Applied Physiology. Charles Herbert Best, C.B.E., M.A., M.D., D.Sc.(London), F.R.S., F.R.C.P. (Canada), Professor and Head of Department of Physiology, Director of the Bantin-Best Department of Medical Research, University of Toronto; and Norman Burke Taylor, V.D., M.D., F.R.S.(Canada), F.R.C.S.(Edin.), F.R.C.P. (Canada), M.R.C.S.(Eng.), L.R.C.P.(London), Professor of History of Medicine and Medical Literature, University of Western Ontario. The Williams and Wilkins Company, Baltimore, 1955. 1357 pages, $12.00.

POTASSIUM METABOLISM IN HEALTH AND DISEASE. Howard L. Holley, M.D., Department of Medicine, University of Alabama; and Warner W. Carlson, Ph.D., Department of Biochemistry, University of Alabama. Grune & Stratton, New York, 1955. 131 pages, $4.50.

PUBLIC RELATIONS IN MEDICAL PRACTICE. James E. Bryan, Administrator, Medical-Surgical Plan of New Jersey; Formerly Executive Officer, the Medical Society of New Jersey, Chairman of the Medical Society Executives Conference. The Williams and Wilkins Company, Baltimore, 1955. 301 pages, $5.00.

REACTIONS WITH DRUG THERAPY. Harry L. Alexander, M.D., Emeritus Professor of Clinical Medicine, Washington University Medical School; former editor of *Journal of Allergy*. W. B. Saunders Company, Philadelphia, 1955. 301 pages, 33 figures, $7.50.

RECENT ADVANCES IN MEDICINE AND SURGERY —Vol. I and Vol. II—19-30 April 1954. Based on Professional Medical Experiences in Japan and Korea 1950-1953. Army Medical Service Graduate School, Walter Reed Army Medical Center, Washington, D. C. (Medical Science Publication No. 4.) Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. 921 pages, $1.75.

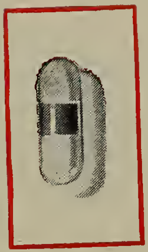
SEGMENTAL ANATOMY OF THE LUNGS—A Study of the Patterns of the Segmental Bronchi and Related Pulmonary Vessels. Edward A. Boyden, Ph.D. (Med. Sc.), Professor Emeritus of Anatomy, The Medical School, University of Minnesota. The Blakiston Division, McGraw-Hill Book Company, Inc., 330 West 42nd Street, New York 36, N. Y., 1955. 276 pages, 12 plates (11 in color), 125 figures (many in color), $15.00.

SURGERY OF THE HEART. Charles P. Bailey, M.D., M.Sc.(Med.), LL.D.(Hon.), F.A.C.S., F.C.C.P., F.I.C.S., Professor and Head of the Department of Thoracic Surgery, Hahnemann Medical School, Philadelphia. Lea & Febiger, Philadelphia, 1955. 1062 pages, $25.00.

SURGERY OF THE SMALL AND LARGE INTESTINE. Charles W. Mayo, M.D., Section of Surgery, Mayo Clinic, Rochester, Minn. The Year Book Publishers, Inc., 200 East Illinois St., Chicago, 1955. 340 pages, $9.00.

TEXTBOOK OF NEUROLOGY, A. H. Houston Merritt, M.D., Professor of Neurology, Columbia University. Lea & Febiger, Philadelphia, 1955. 746 pages, 181 illustrations and 128 tables, $12.50.

TEXTBOOK OF PHYSIOLOGY, A—17th Ed. Edited by John F. Fulton, M.D., Sterling Professor of the History of Medicine, Yale University School of Medicine. W. B. Saunders, Philadelphia, 1955. 1275 pages, 600 illustrations, $13.50.



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*Pratt, R., & Dufrenoy, J.: Texas Rep. Biol. & Med. *12*:145, 1954.

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Tests Show Tobacco's Effect on Heart

(Continued from Page 76)

slight effect on circulation only. They said the "protection" afforded the heart by whiskey during smoking is "purely an illusion."

Their evidence does not prove that smoking presents a "direct danger" to coronary disease patients through constriction of the heart arteries, they said. Nevertheless, smoking is bad for them because of other undesirable effects, such as increases in heart rate and blood pressure, heart spasm, irregular heartbeat, nose and throat irritation with "troublesome hacking and coughing," stomach trouble, and lowered vital capacity. They called it "unsound medically" to allow use of tobacco by patients already below par in heart and breathing efficiency and conditioning for activity.

"Smoking has long been known to reduce physical fitness for exertion even in normal persons, a fact responsible for its prohibition among athletes," they said. "Since this is so, every patient with coronary disease who is a smoker may make a valuable contribution to his own rehabilitation by total abstinence. Peak physical fitness at a safe level of activity should be as much the objective of the patient with coronary disease as the athlete."

An accompanying editorial in the *Journal* said there seems now to be "definite evidence" that smoking, although it may not directly affect the coronary arteries, can damage the heart muscle. It said "no patient with coronary disease should incur the added risk to his heart imposed by smoking without first discussing thoroughly the problem with his physician."

Medicine Alone May Not Conquer Syphilis

(Continued from Page 98)

tance" because of increasing amounts of international travel. Mass treatment may sharply cut incidence, but each government must be responsible for its own problem. Meanwhile, vigilance at the ports must be continued to protect against spread from "vast reservoirs of infection overseas."

Syphilis is one of the most complicated diseases known to man, the review noted. It can affect children born to infected parents, and can result in blindness, heart disease, and insanity, among other things. While the decline in the reported incidence has been "one of the most dramatic episodes" in modern epidemic control work, the problems of the future are prevention of infection, control of spread, and discovery of untreated cases to prevent the "catastrophic effects" of late stages.

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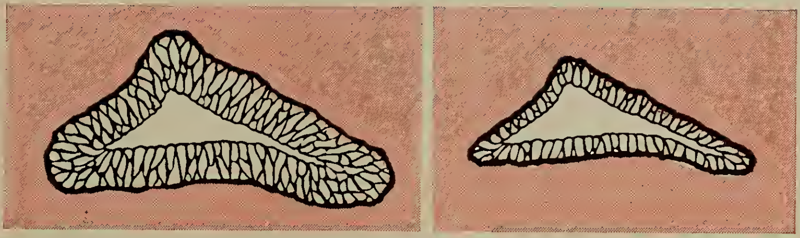

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Health Problems in State Related to Population Growth and Movements*

The U. S. Census Bureau estimate of July 1, 1954, gave California a population of 12.544.000. This was an increase of nearly 2,000,000 since the 1950 census was taken and more than 5,600,000 since 1940. It represents an average gain in excess of 400,000 per year. In numbers of people, this is equivalent to the creation of four new cities the size of Fresno and a new Bakersfield for good measure every year for the past 14 years. Great as was the movement to California during the 1940's, it has accelerated in the 1950's, bringing us close to half a million new residents every year in the past four. If growth continues at the present rate, a population of 15,000,000 is in prospect before the end of the present decade.

Obviously, so vast and rapid an expansion of the population must bring problems. Not only must thousands of new jobs be created every month, but the new people must have houses, schools, roads, and facilities and services of all kinds. If anyone wishes, quickly but not too inaccurately, to estimate the various needs created in a single year by our growing population, let him merely divide 500,000 by whatever ratios seem to him reasonable or desirable. For example, if 800 people to each physician is a reasonable standard (and before the war we had that many doctors in California), then we need over 600 new doctors in California every year in addition to replacements for those who die, retire, or enter military service. If 4.5 hospital beds per 1,000 people are about right, we need more than 2,000 additional hospital beds in California every year. In 1950, each California dwelling unit was occupied, on the average, by 2.7 persons. To maintain that standard, we must build 180,000 new dwellings every year in addition to replacing those torn down because no longer suited for occupancy or to make way for new uses of the land. This kind of arithmetic could be extended indefinitely to provide a formidable inventory of needs in every department of our common life. And be it noted that new facilities of this order of magnitude must be provided just to keep our community head above water, without thought of improvements.

All these things are being provided, but inevitably there are time lags, often painfully, expensively, and unnecessarily long. Furthermore, new structures, new organizations, new systems do not come magically into existence in response to a need. They must be created by human beings, and that means by study, organization, planning, and action. It is one of the great strengths of our social system that the power to make necessary decisions is widely distributed. A society with all planning centralized at the top could surely not solve such problems as California faces without incalculable human suffering. But, sometimes, in our democratic way of doing things, the necessary action to solve problems seems a long time coming. I take it that is the reason our conference is convened here today—to study the problems in the field of health, particularly rural health, and jointly to consider how best to speed up the processes of planning and action to meet our common problems which grow, day by day.

To think intelligently about community health problems, it is obvious that we must consider not merely the gross numbers of people, but the make-up of the population in regard to sex, age, race, and other relevant characteristics, and its distribution geographically and among communities of varying size and character. In the recent past, far reaching changes have occurred in the composition and distribution of the California population as well as in its total size.

The distribution of population among the counties of California, with few exceptions, has changed little since 1940. One county (Contra Costa) nearly tripled in population between 1940 and 1950; three others (San Diego, San Mateo, and Solano) approximately doubled. At the other extreme, four mountain counties actually lost population during the decade and several others gained only slightly. The large majority of California counties, however, participated in the general upsurge of population, at rates varying from 25 to 75 per cent. The statewide increase was 53 per cent. When viewed from the standpoint of major geographic divisions, the population distribution pattern appears very similar to that of 1940. The eight counties south of the Tehachapis contained slightly less than 54 per cent of the state's population in 1940 and nearly the same proportion in 1950. The San Joaquin Valley counties had 11 per cent of the state population both in 1940 and in 1950. The eight metropolitan areas (14 counties) accounted for 80 per cent of the California population in 1940 and 79 per cent in 1950.

Although not many significant changes have occurred in the county distribution of population, very important changes have been occurring within the counties. An outstanding trend of the past quarter of a century has been the movement of people to the suburbs of the larger cities—a movement which is transforming the very nature of the city. From a relatively compact and well-defined concentration of population, the modern city has become a complex of urban life and activities spread over a wide area. This development has given rise to the phenomenon of the "urban fringe" with many attendant problems. In recognition of the changing character of the city, the U. S. Census Bureau in 1950 adopted a new definition of "urban." Formerly, the census counted as urban only the residents of incorporated places containing 2,500 or more inhabitants. A few unincorporated places were brought into the urban category under special rules. But with rare exceptions, people living outside the corporate city limits

(Continued on Page 14)

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*Paper presented at the California Conference on Rural Health, Fresno, February 11-12, 1955.

A New Future

FOR THE HYPERTENSIVE

Because of the tendency of hypertension to progress from mild to severe, it is all the more important to institute therapy in the early stages of the disease, long before the fundi show any changes, in the aim to arrest progression.[1] The management of early, labile hypertension proves rewarding to both patient and physician. Of such mild cases, up to 80 per cent respond to therapy with Rauwiloid alone.[2] In the more advanced cases of hypertension Rauwiloid—in addition to its own beneficial actions—reduces significantly the dosage requirements of more potent hypotensive drugs when used in combination with them.

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1. Finnerty, F. A., Jr.: The Value of Rauwolfia Serpentina in the Hypertensive Patient, Am. J. Med. *17*:629 (Nov.) 1954.
2. Moyer, J. H., in discussion of Galen, W. P., and Duke, J. E.: Outpatient Treatment of Hypertension with Hexamethonium and Hydralazine, South. M. J. *47*:858 (Sept.) 1954.
3. Livesay, W. R.; Moyer, J. H., and Miller, S. I.: Treatment of Hypertension with Rauwolfia Serpentina Alone and Combined with Other Drugs; Results in Eighty-Four Cases, J.A.M.A. *155*:1027 (July 17) 1954.

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THE FIRST THOUGHT IN HYPERTENSION

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Health Problems in State Related to Population Growth and Movements

(Continued from Page 10)

were considered rural. In 1950, however, around every city of 50,000 or more inhabitants, the census defined an "urbanized area" corresponding to the actual extent of thickly settled territory. All residents within this zone are classified as urban which corresponds to the economic and social reality. Also considered urban are the residents of all places outside the urbanized areas which have 2,500 or more inhabitants, whether incorporated or not.

According to the new definition, the population of California in 1950 was more than 80 per cent urban. More than two-thirds of all Californians resided within the eight urbanized areas of Los Angeles, San Francisco and Oakland, San Diego, Sacramento, San Jose, San Bernardino, Fresno, and Stockton. The distribution of the populations within these urbanized areas deserves special attention. The central cities contained only about half of the area populations. Other incorporated towns accounted for a third. But more than one person in six, exceeding 1,200,000 people, lived outside the limits of any incorporated place. This is one measure of the famous "urban fringe" problem. It is an insufficient measure because it is limited to the eight urbanized areas, although virtually every city in the state has its suburban fringe. One thinks, for example, of the extensive fringe settlements around Bakersfield, Marysville, Salinas, and others. It should be borne in mind that these dwellers in the urban fringe, whose number is now, in 1955, probably not less than 2,000,000 are not open-country residents placed in an urban category through some technicality. They are genuinely urban. Yet because they live outside the limits of any legally constituted city, they do not have access, except by special and nearly always partial arrangement, to the normal urban services. How to provide necessary public services to the unincorporated urban areas has

(Continued on Page 22)

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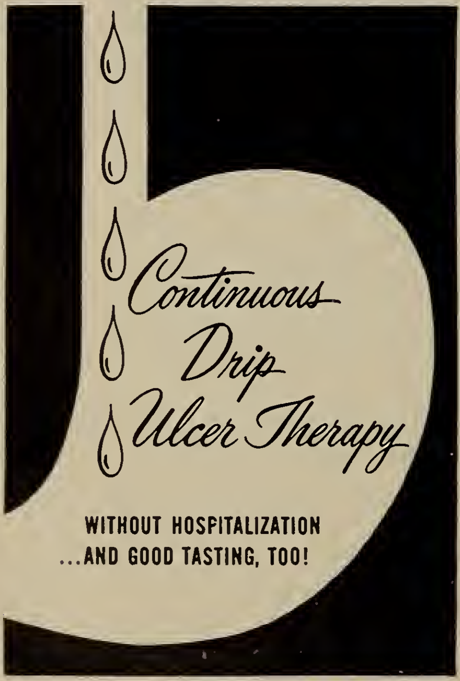

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*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. *22*:67 (Mar.) 1955.

†Mg trisilicate 3.5 gr.; Ca carbonate 2.0 gr.; Mg oxide 2.0 gr.; Mg carbonate 0.5 gr.

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One consultant said caffeine in coffee may cause nervousness, tremor, flashes of light or hearing difficulty, insomnia, headaches, and a variety of other minor difficulties. But these "ordinarily are not serious and disappear promptly if the use of coffee is stopped." In persons with organic disease such as heart, nerve or intestinal disorders, he said the effect could be harmful and the excessive use of coffee should be avoided.

The second consultant said caffeine and other substances in coffee certainly could be harmful to a peptic ulcer patient, and may cause some heart-circulation difficulties and even loss of weight (from increases in work output under the influence of caffeine). But he said anyone who has to ask his physician whether 20 or 30 cups of coffee are hurting him must not be experiencing any ill-effects.

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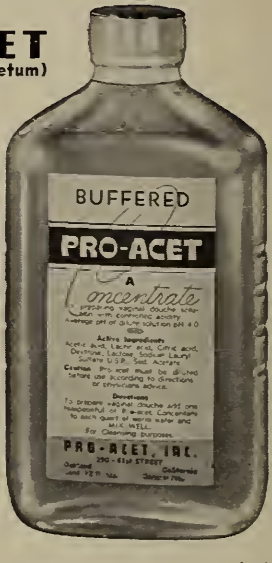

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Health Problems in State Related to Population Growth and Movements

(Continued from Page 14)

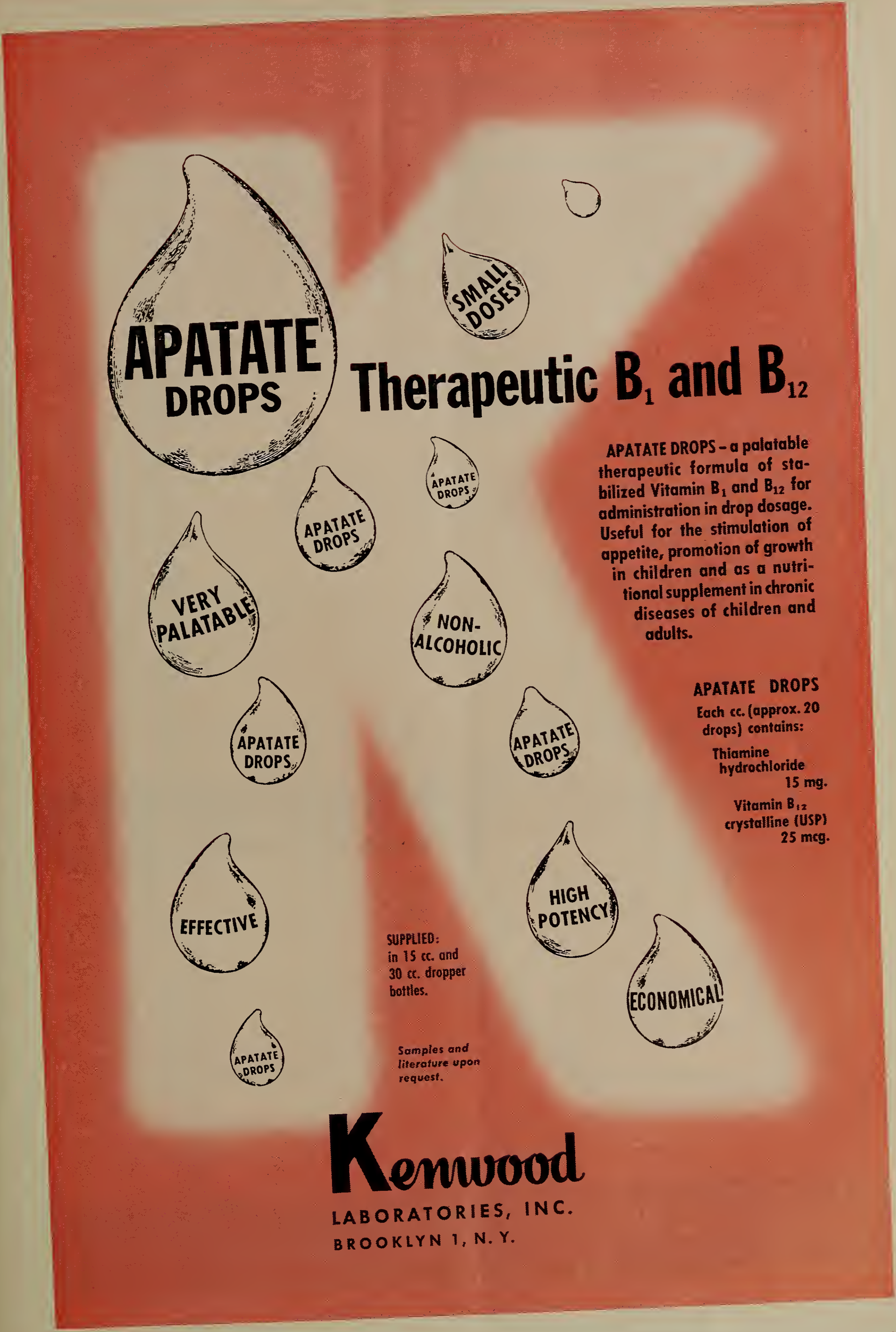
raised serious problems of local government which are being debated in the Legislature and throughout the state.

One aspect of the governmental problem in unincorporated areas, of particular importance from a health standpoint, is the inadequacy or lack of regulatory machinery touching such matters as land use, building construction, drainage, water supply, and sanitation. The lack of such controls, considered indispensable in modern cities, is at best a serious handicap to sound community development; at worst, it has permitted the development of a new type of slum—the rural or suburban "shacktown." These shacktowns, which number in the hundreds throughout California, present some of the most grievous examples of unhealthful living to be found anywhere in the state. The situation is not new. Housing inspectors and health officers, among others, have for years decried the evils of the shacktowns. Yet, through failure to extend appropriate planning and regulatory machinery to unincorporated areas, the rural slum problem has grown and continues to grow to ever larger dimensions.

The rural population enumerated in 1950 corresponds more closely than before to what we are accustomed to think of as rural, namely, persons living in villages and in open country. Still included in the rural category, however, are the fringe dwellers around cities of less than 50,000 inhabitants outside the urbanized areas. The size of this latter group is not precisely known, but unquestionably it numbered not less than a quarter of a million people in 1950.

As defined, the rural population of California in 1950 included somewhat more than 2,000,000 people, or about one-fifth of the state total. Because of the change in definition, it is not possible to measure the increase in rural population between 1940 and 1950, but there is no doubt that the growth was very substantial. Even under the restricted definition of 1950, the rural population was larger than it was in 1940 under a much broader definition. Rapid population growth in the rural areas is also indicated by the rate of new housing construction. Nearly half of the total supply of rural nonfarm dwelling units existing in 1950 were built during the 1940's; more than a third were built in 1945 or later. In the postwar period up to 1950, well over one-fourth of all new dwelling units in California were built in rural areas although the rural population represented no more than a fifth of the state total. Evidently, the rural population has been growing more rapidly than the urban in recent years although it is possible that a considerable part of the new rural housing may have been built to replace older, inadequate structures.

(Continued on Page 26)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Health Problems in State Related to Population Growth and Movements

(Continued from Page 22)

All of the growth in the rural population since 1940 has occurred in the nonfarm sector. The farm population has been declining in California as in the rest of the United States. In 1950 there were 50,000 fewer people living on California farms than in 1940, a decrease of about 8 per cent. Nearly three-fourths of the persons counted as rural in the 1950 census were not living on farms. Nor were they engaged primarily in agriculture, at least not directly. Wholesale and retail trade was the largest industrial grouping of rural nonfarm workers, followed by manufacturing, with agriculture in third place. Only one rural nonfarm worker in seven was employed in agriculture. Thus, the industry distribution of rural nonfarm workers is closer to the urban than to the farm pattern.

In respect to occupations, the rural nonfarm population is distinctive in its high proportion of laborers. The long-run trend toward occupational upgrading of the working population had, by 1950, reduced the number of urban manual laborers to less than 70 per cent of the total. In contrast, fully one-fifth of the rural nonfarm workers and one-third of the employed farm residents were laborers.

(Continued on Page 30)

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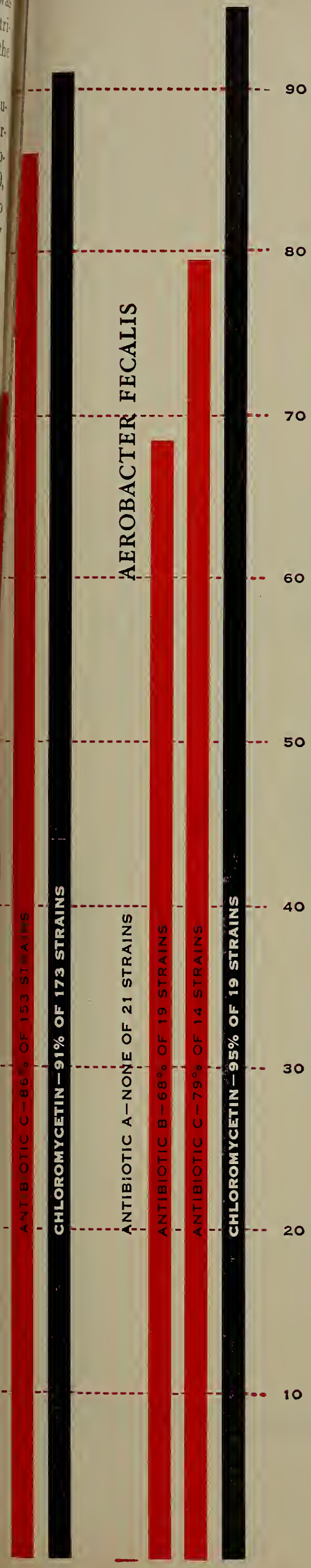

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Adapted from Altemeier, W. A.; Culbertson, W. R.; Sherman, R.; Cole, W.; Elstun, W., & Fultz, C. T.: *J.A.M.A.* 157:305 (Jan. 22) 1955.

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Health Problems in State Related to Population Growth and Movements

(Continued from Page 26)

Skilled and semiskilled manual workers were also more numerous in the rural nonfarm than in the urban population.

The relative prominence of poorly remunerated and less prestigious occupation in rural territory as compared with the urban suggests greater frequency of low levels of living and this is borne out by other data. Insofar as health must be purchased in the form of medical service, adequate housing, good diets and so forth, the rural population appears distinctly less able to meet its needs than are the city dwellers. Median family incomes in 1950 were $2,765 for California farm families, $3,125 for the rural nonfarm group, and $3,705 in California cities. The rural nonfarm family receives, on the average, about $50 a month and the rural farm family about $78 per month less than their urban counterparts. Yet on these smaller incomes, they support more children. In 1950, each 100 rural adults under 65, both farm and nonfarm, were supporting on the average 51 children under 15. Each 100 urban adults under 65, however, were rearing only 38 children.

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(Continued on Page 32)

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BOYLE

Health Problems in State Related to Population Growth and Movements

(Continued from Page 30)

index of welfare is the quality of housing. Here, again, the rural situation in California appears inferior to the urban. To begin with, rural nonfarm houses are smaller than urban dwellings. The typical rural nonfarm dwelling in California contains four rooms or less whereas the five-room house is the most common urban size and the urban average comes to 4.4 rooms per dwelling. It will be borne in mind that the smaller rural dwellings are occupied by families that are larger than the average urban family. Hence arises the striking result that the people of the spacious countryside actually live in more congested quarters than the inhabitants of the crowded cities!

A building in reasonably good condition, hot running water, and a flush toilet and bath are nowadays widely regarded as basic essentials of housing conforming to the American standard of living. This standard was met, in 1950, by 90 per cent of the urban dwellings in California, but only 69 per cent of the rural nonfarm dwellings came up to it. Nearly a third were lacking at least one of these essentials. The extent of basic deficiencies is the more striking in view of the fact as previously noted, that almost half of the rural nonfarm houses existing in 1950 were less than 10 years old. It is difficult to escape the conclusion that much of the new housing built in California rural areas in recent years has been substandard from the beginning.

The educational level of a population is recognized as intimately connected with welfare and health. Here again, striking differences appear between California urban and rural populations. Of the urban adults over 25 years of age in 1950, nearly half had finished high school, as compared with only a third of the rural adults. One in five of the urban adults but only one in seven of the rural had attended college.

We are accustomed in this country to value education as a major instrument for individual and social progress. From this point of view, it is disturbing that the educational deficiencies of the adult rural population are being perpetuated in the present generation of school-age children. At every age level from five years up, the proportion of children attending school is smaller in the rural areas than in the California cities. Compulsory attendance laws keep the differences slight through the elementary grades. After age 15, however, the school attendance of rural nonfarm children drops abruptly. At the 18 and 19 year ages, 40 per cent of urban children are still in school as are also farm children to a slightly less extent. But more than three-fourths of the rural nonfarm children have at this point dropped out of school.

Another factor of profound significance for community health needs is the changing age composition

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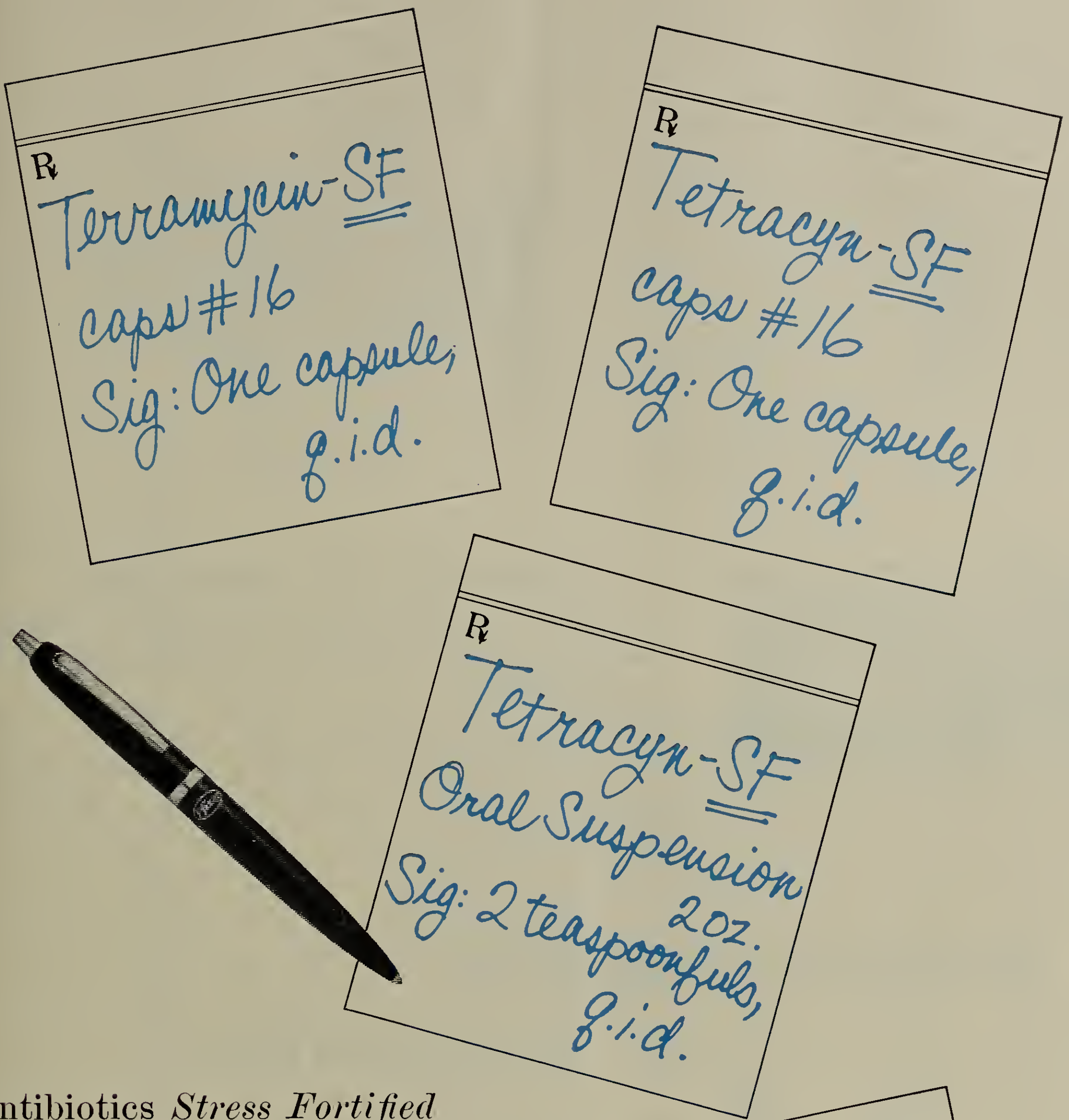

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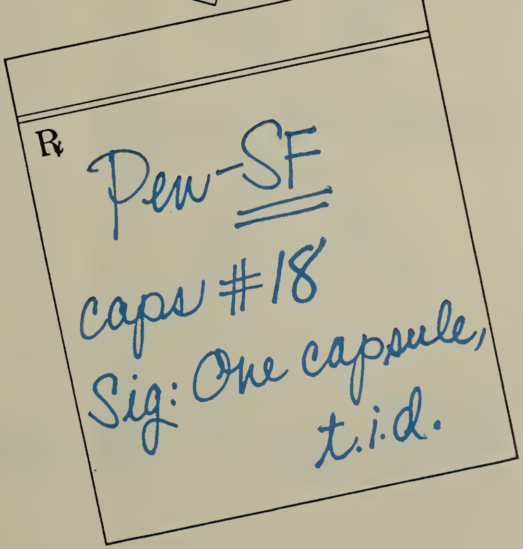

℞ Pen-SF
caps #18
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Health Problems in State Related to Population Growth and Movements

(Continued from Page 32)

of the population. The progress of medical science has notably lengthened the average span of life, mainly through conquest of infant mortality and the infectious diseases. The increasing ability of people to survive the life risks of childhood and early maturity entails, obviously, the enlargement of those groups subject to the health risks characteristic of the later year. These are the so-called "degenerative" and chronic diseases—cancer, heart disease, and the like. The fundamental reasons for the growing prominence of diseases of this sort are first, the medical conquest of their infectious competitors, and second, the increasing accumulation of older persons in the population.

In the past 50 years, while the general population of California has increased seven-fold, the number of those over 45 has increased nearly 10-fold and of those 65 or older, almost 12 times. The proportion of the population over 45 advanced from 22 per cent in 1900 to 30 per cent in 1950. Perhaps it should be pointed out here that this phenomenon is not a result of any large migration of older people to California, seeking the gentle climate or generous pensions. Rather, it reflects the survival of those who migrated to California as young people.

The near elimination of mortality from infectious diseases and the aging trend of population are altering the impact and the nature of health problems. For some years, the diseases characteristic of middle and old age have been the main cause of death in the population at large. In the future it is likely that the chronic and degenerative illnesses will move increasingly to the forefront of attention in matters of health.

(Continued on Page 42)

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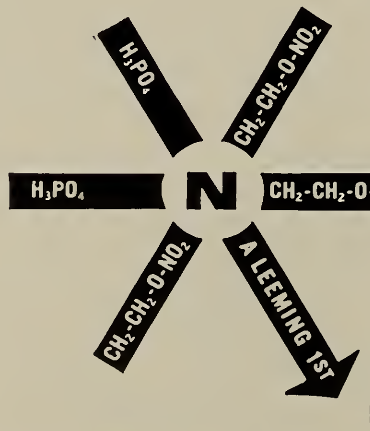

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1. Jones, A.C.: The Influence of Creatine Precursors and High Energy Phosphates on Convalescense from Poliomyelitis, submitted for publication.

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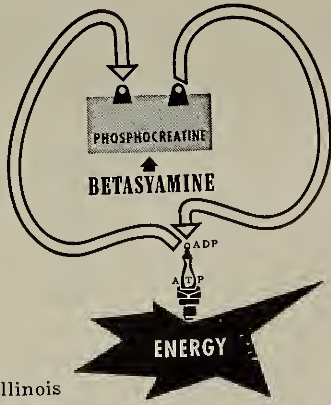

Health Problems in State Related to Population Growth and Movements

(Continued from Page 38)

A partial qualification of the foregoing remarks is suggested by the even more dramatic population changes which have been occurring at the younger end of the age range. Prior to World War II, the long-run decline of the birth rate was reflected in smaller proportions of children in the population at each succeeding census. This was the other side of the coin of the aging trend. In the mid-1930's, however, the birth rate ceased to decline and turned upward. The early phase of World War II brought a sudden rise in marriages and births; the postwar period witnessed an upsurge in the birth rate unprecedented in decades. The historic declining trend in relative numbers of children was abruptly reversed in the decade of the forties. In California, children under five increased by 142 per cent as compared to the general population increase of 53 per cent. In 1950, children under five made up more than one-tenth of the population of the state. Not since 1880 had the census observed a higher proportion of young children.

This sudden expansion of the infant population has thrown a severe strain on facilities for the health care of mothers and children. Although medicine

(Continued on Page 50)

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Inhaling such substances as house dust and ragweed pollen can cause skin disease as well as asthma in some children, a Philadelphia physician says.

Dr. Louis Tuft, Temple University School of Medicine, reported on "inhaled" allergens in a recent issue of the *American Journal of Diseases of Children*, published by the American Medical Association.

He said for many years allergic eczema, a form of skin disease, was treated like other "eczemas" and was blamed on allergy-producing foods such as milk, wheat and eggs. He said that food can cause this kind of skin disease but that it often results from simply inhaling allergens, notably ragweed. Frequently both skin disease and asthma are caused by the same substance.

Chief causes of the disease are house dust, plant pollens, wool, silk, tiny scales from animal hair or feathers, insecticides, and atmospheric molds (particularly in the Midwestern, or grain, areas of the country). Children may get allergic eczema from rabbits, cats, horses, and dogs. While some cases may be treated by desensitizing injections like those used in asthma, the usual treatment is to remove the cause.

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Health Problems in State Related to Population Growth and Movements

(Continued from Page 42)

has powerful resources of scientific knowledge for combating the illnesses of pregnancy and childhood, expectant mothers and young children in many areas are not receiving the full benefits of this knowledge for lack of medical personnel and facilities to apply it.

The explanation of the birth rate upsurge in terms of war-caused acceleration or postponement of normal marriages and births has grown less and less tenable as years have passed and the birth rate has continued at a high level. The reasons are mysterious, but we seem to be confronted with a profound change in the attitudes of people toward marriage and family life. People nowadays are marrying younger than ever before and they are having more children than their parents had. The rise in the birth rate has arrested the relative aging of the population, at least for the time being, although the older age groups will continue to grow in absolute magnitude. But with nearly one-fifth of our population composed of children under ten years of age, it is clear that concern for children must continue to hold a central place in our planning for health and welfare.

This brief summary of outstanding population movements and their health implications has aimed to call attention to the need for massive expansion of resources for health, and for modernization of local government if we are to keep up with the demands imposed by a rapidly changing population. We can fall short of meeting these needs but only at the cost of lowering our standards of family and community living, particularly our standard of health.

—Davis McEntire, Ph.D., School of Social Welfare, University of California, Berkeley, in *California's Health*

Health Information Foundation Embarks On New Survey

President George Bugbee of the Health Information Foundation announced a few days ago that the foundation will sponsor the first nationwide survey ever made to find out how people feel about health facilities, health personnel, and voluntary health insurance. The study, he said, is expected to reveal people's attitudes and practices regarding all medical services, including dental care, drugs, and medications.

The survey will be financed through a $100,000 grant by the foundation, a nonprofit, fact-finding organization.

—*A.M.A. Secretary's Letter*

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Treatment of the Arthritides

A Panel Discussion

MODERATOR
Ephraim P. Engleman, M.D., San Francisco

PANEL
Howard J. Weinberger, M.D., Beverly Hills
Carlos F. Sacasa, M.D., Pasadena
Nathan E. Headley, M.D., Los Angeles
Roland Davison, M.D., San Francisco
Stacy R. Mettier, M.D., San Francisco
Frederic W. Rhinelander, M.D., San Francisco

Dr. Engleman: One of our first concerns when dealing with a patient with rheumatism or rheumatic complaints is the matter of pain, and the first question I would like to ask the members of our panel is this: **What is the analgesic of choice in rheumatoid arthritis?**

Dr. Headley: Aspirin. The dose used should be the amount necessary to control the pain. Aspirin is usually tolerated better if taken after meals. Hence 10 grains four times daily after meals and at bedtime usually will keep patients with arthritis much more comfortable. They are then advised to supplement that dosage with 10 or 15 grains of aspirin as needed to control pain. The only contraindication to larger doses is the development of nausea or signs of salicylism, such as tinnitus. If this occurs, the dosage must be decreased to within the range of tolerance for the drug. Aspirin is not only the most effective but also the cheapest analgesic drug for patients with arthritis.

Dr. Davison: We must remember that aspirin not only is an analgesic but it also has definite effect on the connective tissues which are involved in the disease. Therefore I feel that we should give plenty. I give patients 1 gm. every four hours during the day when they are awake. I think it is always advisable to tell them, as Dr. Headley suggested, that if they need more aspirin, certainly they may take it. It is a good plan to have the patient record the amount of aspirin he takes, for frequently a patient skips doses when he begins to get better; hence the record gives a clue as to whether or not the patient is having a lot of pain.

Dr. Weinberger: I think that it is important to maintain adequate blood levels when giving aspirin. Aspirin is excreted at regular intervals, perhaps four-hour intervals, and it should be given that way. One can measure the blood level but the appearance of tinnitus is an approximate indication of the appropriate blood level, which should be around 15 mg. per 100 cc. One can then drop down a little bit below the dosage that will produce tinnitus. Since aspirin is excreted during the night, the morning dose, I think, should be higher than the usual dose. An important point to remember about aspirin is that the gastric irritation can be central as well as local. Aspirin should always be given in a coated tablet, and after meals as well. It is very likely, too, that some of the gastric irritation comes from the return of aspirin into the stomach from the blood during the night. It is advisable to give something at bedtime to protect the stomach when it is empty.

Dr. Engleman: Thank you. There has been a good deal of publicity concerning various combinations of salicylates and other drugs, notably para-aminobenzoic acid. So the question is: **Is there any advantage in these combinations?** Dr. Davison, please.

Presented at a combined meeting of the Section on General Practice and the Northern and Southern California Rheumatism Associations at the 83rd Annual Session of the California Medical Association, Los Angeles, May 9-13, 1954.

Dr. Davison: In a trial series of cases using plain para-aminobenzoic acid, either the sodium or the potassium salt, we gave patients, in addition to aspirin, as much as 12 gm. a day and found that it had no particular advantage.

Dr. Engleman: Is there any other comment? I would certainly agree. This has been my experience. The combinations are much more expensive and, generally speaking, aspirin fills the bill very well.

The next question: **Is rest indicated in the treatment of rheumatoid arthritis, and if so when?** Dr. Weinberger, please.

Dr. Weinberger: Rest is one of the most important measures in rheumatoid arthritis, which is essentially a constitutional disease. Unfortunately, laymen—and doctors, too—are not accustomed to using rest in the treatment of this disease and it is hard to sell. Rest should include mental as well as physical rest. Depending upon the severity of the disease and the joints involved a program of rest can be prescribed so that the patient can get maximum benefit from it. When there are severe constitutional symptoms I think the patient should have full bed rest. If he is plateauing and is not showing any improvement he should be let up, but he should be given the benefit of a prolonged trial period of rest just as is done in tuberculosis.

Dr. Engleman: Do we have any additional comment? This is a point that is rather important from an economic point of view since most of our patients are working people who depend upon their salaries for a livelihood. Now, Dr. Weinberger says that all of our patients should be given rest. Do we provoke any disagreement or discussion?

Dr. Sacasa: I believe that even though complete bed rest has been prescribed, certain measures of physical therapy are indicated in most instances, such as muscle-setting and range of motion exercises to prevent the development of deformities and ankyloses. I don't think there is any contradiction between mild physical therapy activities and bed rest.

Dr. Engleman: Well, the question concerns the matter of rest. We're going to talk about physical therapy in a moment. **But, do we all agree that rest is indicated in the treatment of rheumatoid arthritis, even to the extent of complete bed rest?**

Dr. Davison: I think all patients should be put to bed. The patients get better very much faster—providing we don't put them to bed and just leave them there. I'd like to hear Dr. Rhinelander say what he thinks rest should include, because we just don't want to put a patient to bed; we've got to protect joints from deformities.

Dr. Engleman: Well, again, Dr. Davison, we're going to discuss the matter of physical therapy and prevention of deformities. I'd like to confine this question just to the matter of rest. Dr. Headley?

Dr. Headley: I do not agree that all patients should be put to bed. In my opinion, complete bed rest is not usually necessary unless the patient is having a severe attack of arthritis with fever and pronounced constitutional reactions. If so, a relatively short period of complete bed rest may be very beneficial. I do agree that rest is very important but for most patients I believe that a rest program of 10 to 12 hours in bed at night and a rest period of one to two hours during the middle of the day is sufficient. As Dr. Weinberger has pointed out, mental rest as well as physical rest is very important. Many patients are under considerable emotional strain. Acute flare-up of arthritis due to some emotional crisis is not uncommon. Hence it is essential to try to help patients work out some of their emotional problems.

Dr. Engleman: Dr. Weinberger?

Dr. Weinberger: Well, always a certain amount of compromise is necessary. If the patient is a wage-earner it may be necessary to keep him active even with constitutional symptoms. One should encourage him to go to bed early every night when he comes home from work and if possible to spend week-ends in bed. It may also be possible for him to have an hour's stretch in the middle of the day or to get off his feet. In the case of a housewife, it is worthwhile to encourage her to get an hour or two of rest in the middle of the day or to avoid being on her feet for long periods. In any case one should, I think, try to achieve a maximum amount of rest in the very active phases of the disease. At least rest should be given a trial to see whether it won't induce statistically predicted remission that occurs in so many cases.

Dr. Engleman: I'm going to call on our orthopedic consultant, Dr. Rhinelander, to discuss this very briefly, but at the same time I'm going to ask him the next question; perhaps he can incorporate his answers. The question: **Is physical therapy of value in the treatment of rheumatoid arthritis; and, if so, why?**

Dr. Rhinelander: On the subject of rest, it includes not only the whole body, the patient as a whole, but the individual parts and joints, as I think has been brought out. There must also be a mixture of rest and activity, as has also been mentioned. If you put a patient completely at bed rest or if you put a joint at complete rest in a plaster cast, great harm will result—stiffness of the affected joints. A joint, when it is in a condition of acute inflammation, must be protected or the condition will be aggravated. But when you put the joint at rest, it is essential also to carry that joint frequently through its range of motion, using its muscles, but at the same time preventing any great stress on the joint which would stir up the condition. Physical therapy is extremely important for both the patient who is at bed rest and the patient who is active. Now, that doesn't mean that you have to have a physical therapist. You can't always obtain such services. The patient must be taught to exercise his joints through the range that he can traverse without causing undue pain. If a joint is moved very slowly through its range once or twice a day even though it is acutely inflamed, this will do a great deal towards preventing ankylosis which will occur if you put the joint at constant rest.

Dr. Engleman: The next question is partly answered in what Dr. Rhinelander has just said: **It is said that rest as well as exercise is important in the treatment of rheumatoid arthritis. How do you administer both simultaneously?**

Dr. Rhinelander: For the patient as a whole, you can put him to bed if you want him to rest. For resting a joint, if the patient is off weight-bearing and there are no deformities present, probably just plain rest without any particular supporting apparatus is sufficient. But if a deformity is present—for example, a flexion deformity of a knee—some sort of splint or removable cast should be applied to that joint to allow it to relax in the position which it has adopted from its muscle spasm. If the patient has a flexed knee, for example, and if the patient is lying upon his back in bed with the weight of the leg resting on the heel and the knee is being stretched all the time, that will increase the pain and muscle spasm. Therefore the joint should be splinted. A removable plaster cast is the most convenient. The best way is to have hinges in the cast so it can be extended as the knee settles down and the flexion deformity decreases. The muscle spasm subsides, then the joint will straighten out. Now, in the case of an acutely inflamed joint in a wrist or finger, by making a light splint that can be worn when the patient is ambulatory, you can do a lot to relieve pain and future deformities in such a joint.

Dr. Engleman: I don't think you've answered the question—how a patient can be at rest and exercise simultaneously.

Dr. Rhinelander: He wears these splints only part of the time. As I said in the earlier discussion, it is important to remove the splints frequently. If the patient is lying at bed rest, somebody has to supervise exercise of all the involved joints. But the exercise must avoid stress, or you are defeating the premise of rest. You have to carry out exercise within the limits of what the joints can take. Several times a day exercise should be carried out either with a physical therapist or nurse or with the aid of somebody in the family.

Dr. Engleman: On to the next question. **Many patients with rheumatoid arthritis insist that rest aggravates stiffness and pain. What shall I recommend?**

Dr. Sacasa: That's a well known question. Aching and stiffness after inactivity is relieved to a certain extent by limbering up or exercise. We must remember, however, that even in rheumatoid arthritis excessive activity is detrimental not only to the joints themselves but to the patient's general condition. As a general rule, any activity that causes pain that lasts over half an hour is excessive and should be curtailed.

Dr. Engleman: Gentlemen, before we get too far away from the subject of aspirin, I have a question that has just come up—one that we shall put to Dr. Mettier. It is this: **Can any harm arise from the profuse perspiration that follows aspirin therapy?**

Dr. Mettier: This is the first time I've ever had that question presented to me. I've had a lot of people ask me about the side effects of aspirin; and, contrary to a lot of things that people say or you hear about, aspirin has very few side effects excepting some irritation of the gastric mucosa when taken in large doses. Occasionally a patient may have a sensitivity to it and a skin reaction. Now, as to diaphoresis: I have seen no harm come from that and I don't think that should be a contraindication to the use of aspirin at all. Does that answer it very poorly?

Dr. Engleman: No, that's fine. Thank you very much. Gentlemen, we've spent fifteen minutes, now, talking about such exciting subjects as rest, physical therapy and aspirin —in 1954 we're still talking about such mundane subjects. I think it is entirely appropriate that we have devoted so much time to these very simple conservative measures because I think all of us on the panel would agree that these still constitute the fundamental and basic approach to the treatment of rheumatoid arthritis.

Now, we are going to enter upon some subjects that no doubt will be much more exciting and perhaps dramatic; perhaps one might even provoke a little more disagreement among members of the panel. And we shall enter into the never-never land of steroids. The question—we'll ask Dr. Headley: **Do you use cortisone and/or hydrocortisone in treating rheumatoid arthritis, and if so when?**

Dr. Headley: Yes, I do use hydrocortisone in the treatment of rheumatoid arthritis. Hydrocortisone should not ordinarily be used until it is certain the disease is going to be progressive. It should only be used for patients who do not make satisfactory progress on the more conservative program that has just been considered, such as rest, physiotherapy, salicylates.

Dr. Engleman: Dr. Sacasa, you're next in line.

Dr. Sacasa: Since about 25 per cent of all patients who have had rheumatoid arthritis for less than a year will have spontaneous remission, I believe patients with the disease in an early stage should receive conservative treatment before steroid therapy is contemplated. There is one group of patients, though, who perhaps should have steroid therapy before it can be determined whether other programs of therapy will be effective. I refer to very severely ill patients with extremely severe constitutional manifestations such as high fever, great loss of weight, extensive muscle atrophy, pronounced weakness and severe anemia—patients whose condition is rapidly deteriorating and who you feel you certainly cannot afford to observe for a year or so to see if they are going to have remission.

DR. METTIER: Gentlemen, may I interrupt just a minute? I'd like to raise a voice of skepticism here. I'd like to ask Dr. Sacasa where he gets the figure "25 per cent spontaneous remission of rheumatoid arthritis"?

DR. SACASA: That comes from Bauer and his group in Boston.

DR. METTIER: It might happen in Boston but it doesn't happen in San Francisco.

DR. DAVISON: I don't agree with that. I see some patients in San Francisco and I would agree that the incidence of remission, spontaneous remission, is in the neighborhood of, well, I'll compromise with you —let's make it 20 per cent.

DR. WEINBERGER: I'd like to disagree with Dr. Headley in a friendly sort of way. I use very little cortisone in the treatment of rheumatoid arthritis. There is a statistically predicted incidence of remission that will occur spontaneously. This constitutional disease should be treated by the more conservative methods for a long period, perhaps a year, before one considers starting cortisone therapy. Now, Cushing's syndrome, which apparently invariably occurs in patients who are getting cortisone —in some mild and in some more severe—is always a very serious sort of thing. Before the advent of cortisone we used to do our best to diagnose it and treat it. Now, we seem to be producing it at will with cortisone in rheumatoid subjects. There are good studies to show that people with naturally occurring Cushing's syndrome at the end of five years have a uniformly poor result whether their disease was successfully treated or not. A large percentage of these people have died after five years. The incidence of reactions in rheumatoid arthritis with Cushing's syndrome produced by steroid therapy is roughly the same as that in naturally occurring Cushing's, with the exception that perforated peptic ulcer seems to be more common in the rheumatoid group. Now, what will happen to our group of rheumatoid arthritis subjects who have been treated for a five-year period with cortisone? We don't know! In a one-year period at the Veterans Administration Hospital where every effort to safeguard the administration of this drug was made, there was an 8 per cent mortality. This is slightly higher than that resulting from subtotal gastric resection in some clinics. Rheumatoid arthritis is a disease that may be fatal, but seems to be fatal in a greater percentage of people who are receiving cortisone. In addition to this, we are now seeing some very peculiar reactions to cortisone, probably to cortisone, that aren't usually described. I'm not particularly worried about the hirsutism, the obesity, the hypertension, the diabetes, the "moon face"—the very overt manifestations of the administration of cortisone; but what does worry me is that an individual with no abnormality observable in an x-ray film of the chest can, in our experience, die of disseminated tuberculosis. It does worry me that fungous infections seem to spread too easily for some reason or other, that tissue doesn't have the resistance that it should to these diseases. Another worrisome thing which has been reported by us and by other groups in the country, is that there seems to be some relationship between the development of periarteritis nodosa or acute vasculitis in rheumatoid subjects and treatment with cortisone. Now, this point isn't clearly established; true enough, vasculitis may be part of the basic pathologic change of rheumatoid arthritis, but I think evidence is accumulating that the tendency for this particular type of very serious involvement is enhanced as a consequence of steroid therapy.

DR. ENGLEMAN: I gather you don't like it?

DR. WEINBERGER: I don't like it.

DR. ENGLEMAN: Approximately to what percentage of your private patients would you administer cortisone?

DR. WEINBERGER: My problem is different in that many people I see have been receiving cortisone and wish to quit using it, but in any case I have not put more than two private patients on cortisone in the last two years. Does that answer your question?

DR. ENGLEMAN: Well, we'll say that's less than one per cent, shall we? Dr. Sacasa, approximately what percentage of your patients do you treat with cortisone?

DR. SACASA: Possibly around 10 per cent.

DR. ENGLEMAN: Dr. Headley?

DR. HEADLEY: I'm sorry I cannot give you an accurate answer. We have very few patients who are now receiving cortisone, but I would estimate that at least 25 per cent, perhaps more, of our patients with rheumatoid arthritis are receiving cortisone.

DR. ENGLEMAN: All right, now let's go the northern hemisphere here. Dr. Davison, do you use cortisone in the treatment of rheumatoid arthritis, and if so when?

DR. DAVISON: Very rarely do I use cortisone in the treatment of rheumatoid arthritis. I occasionally use cortisone in a patient who is going downhill rapidly, when other things have not controlled the disease and the patient is severely ill; but I do not like cortisone for the same reasons that Dr. Weinberger does not.

DR. ENGLEMAN: Dr. Mettier?

DR. METTIER: No.

DR. ENGLEMAN: You never use it?

DR. METTIER: Well, two or three patients, but very few now.

DR. ENGLEMAN: Let's just go right down the panel rather quickly now and ask the same question with regard to ACTH. Dr. Headley?

DR. HEADLEY: I do not use ACTH because I do not find it practical from an office standpoint.

DR. SACASA: This question applies only to rheumatoid arthritis, I gather?

DR. ENGLEMAN: Oh, yes.

DR. SACASA: I agree with Dr. Headley.

DR. ENGLEMAN: Dr. Weinberger, I don't think we need to ask you, do we?

DR. WEINBERGER: I use ACTH less than I use cortisone.

DR. ENGLEMAN: Dr. Davison?

DR. DAVISON: No further comment.

DR. ENGLEMAN: Dr. Mettier?

DR. METTIER: No.

DR. ENGLEMAN: All right. Now, this next question is quite pertinent and quite possibly may offer Dr. Headley a chance to answer Dr. Weinberger or at least further discuss the problem. **How can we best minimize or avoid the undesirable effects of adrenal steroids?**

DR. HEADLEY: The undesirable effects of adrenal steroids can best be avoided by careful selection of patients and by proper dosage regulation. There are certain absolute contraindications which must be ruled out before recommending the use of these hormones. These include active tuberculosis, active syphilis, active peptic ulcer, severe diabetes mellitus, Cushing's syndrome, marked renal insufficiency, and psychosis or severe psychoneurosis. The adrenal steroids must not be used in patients who have any of these conditions. There are relative contraindications, such as arrested tuberculosis, mild diabetes mellitus, cardiovascular or renal disease, active infections, generalized osteoporosis, and tendency to thromboembolic phenomena. If the adrenal steroids are administered to patients with these conditions, they must be given with the utmost caution and the patients must be observed very carefully. After the patient has been selected—and, as previously stated, we do not use the adrenal steroids until more conservative methods have proven inadequate and we are certain the disease is progressive—then many of the undesirable effects can be avoided or minimized if we do not give large doses of these hormones. Initial suppressive doses should not be too large or continued too long. After the disease has been brought under control, reductions from the relatively large suppressive dosage to the smaller maintenance dosage must be made gradually. Maintenance dosage is that amount which adequately controls the disease but does not necessarily entirely suppress it. Persons so treated usually have enough relief from their arthritis that they are able to resume their normal activities although they are not necessarily free from all pain. The dosage must be varied from time to time as the severity of the disease itself varies. The patient and the physician both must be satisfied with relatively small, safe maintenance dosage. If adequate relief cannot be provided safely, then less than satisfactory improvement must be accepted or this kind of therapy should be discontinued. Better results are obtained from the hormone if the total daily dosage is given in divided amounts. We usually have patients take it in four divided doses, such as after each meal and at bedtime. One cannot rely on cortisone or hydrocortisone alone in the treatment of these patients. Other measures, such as adequate rest, physiotherapy, salicylates and preventing physical and/or emotional overactivity, are very important. These are not only helpful in controlling arthritis but also are of great value in keeping the maintenance dosage of the adrenal steroid as low as possible. Patients must be made to realize that the disease is merely controlled —not cured. Success with these hormones may depend as much on the proper management of the patient's activities and on the use of the previously mentioned adjuvants as on the proper regulation of dosage of the adrenal steroid. Two other factors should also be mentioned. When the hormone is discontinued, regardless of the reason, the dosage must be reduced gradually to prevent or minimize the withdrawal symptoms. The drug must not be discontinued in time of stress, such as at the time of surgical operation or acute infections. In fact, temporary increase in dosage is usually indicated when patients are subjected to undue stress.

DR. ENGLEMAN: Would you like to be more specific about the dose, Dr. Headley?

DR. HEADLEY: I would rather discuss the dose of hydrocortisone, as we are now using this drug almost exclusively in preference to cortisone, and I think that in the near future it will be much more widely used than cortisone. However, I assume you are asking me about cortisone. When we previously used cortisone, we placed patients on initial suppressive doses 50 to 100 mg. daily in four divided doses. Usually after two to four weeks, when the disease was brought under control, the dosage was gradually reduced to maintenance level. This was usually done by reducing the amount of cortisone by 12.5 mg. (half of a tablet) every seven to ten days. As a rule, we usually tried to reduce the dosage gradually to between 25 and 50 mg. daily if possible —at least not over 62.5 mg. daily. Occasionally a male patient can tolerate 75 mg. daily but I believe that, for most patients, a dosage of more than 75 mg. daily for any prolonged period is not justified. There is much less chance of adverse effects on the smaller maintenance doses.

Do you object if I give the dosage of hydrocortisone?

Dr. Engleman: Yes I do, because we want to discuss that later.

Dr. Weinberger: Could we have the chairman's reaction to these questions about cortisone? I believe he's had more experience than many of us in this regard.

Dr. Engleman: Well, I'll postpone that until we get on to hydrocortisone. How about elaborating on this one point, Dr. Sacasa. Do you have any additional suggestions as to how we might minimize or avoid the undesirable effects?

Dr. Sacasa: The question of maintenance doses is a very very important one in this regard. I believe that it is not safe to continue maintenance doses of 75 mg. or more for any patient, especially postmenopausal women. When the disease is not adequately controlled with moderate, fairly safe doses, I believe this should be considered cortisone failure, for it would seem unwise to raise the dose to higher and higher levels in an attempt to give more comfort to the patient.

Dr. Engleman: Then your dose recommendation would be less than 75 mg?

Dr. Sacasa: For adult males, no more than 75 mg.; for postmenopausal women, no more than 37.5 mg., as a general rule.

Dr. Weinberger: It is impossible to disassociate the antirheumatic effect from the metabolic effect of these steroids. In other words, you're not going to get the antirheumatic effect without getting some metabolic effect. What one calls toxic reactions or side reactions are in reality the physiological actions or pharmacological actions of these drugs. When one begins to drop the dosage to avoid so-called "side effects" one doesn't get the antirheumatic effects.

Dr. Engleman: Does everybody agree with that? Dr. Headley, do you agree?

Dr. Headley: No, I do not agree. We have patients who are very well controlled on relatively small doses of hydrocortisone and who do not have any significant adverse effects from the clinical standpoint.

Dr. Engleman: Any comments from Northern California?

Dr. Davison: If we're talking about control, what do we mean by control? Actually, these patients still have active arthritis and you're merely controlling symptoms on these doses. I'd like to ask you in what per cent of persons with severe rheumatoid disease do you really control the disease on dosages of hydrocortisone, the equivalent of 50 mg. of cortisone itself?

Dr. Headley: Of course, the severe cases are the ones that are most difficult to manage with cortisone, hydrocortisone or any other type of therapy. Most of the failures with adrenal steroids occur in the severe group. I agree with Dr. Davison that there are very few patients with severe rheumatoid arthritis who can have satisfactory control on safe maintenance doses. However, there are many patients with rheumatoid arthritis who fortunately do not have the severe form of the disease and who can be controlled with relatively small doses.

Dr. Engleman: Dr. Mettier?

Dr. Mettier: I pass.

Dr. Engleman: All right, let's go on now to the question of hydrocortisone. There have been many questions on this point and I'll consolidate them all, if I may: **What are the advantages, if any, of hydrocortisone over cortisone?** Let's start with Northern California. Dr. Mettier?

Dr. Mettier: Hydrocortisone is a little more rapid acting and can be given in smaller doses than cortisone. However, I feel just the same as Dr. Davison does here about this disease—that we still have the disease. And, although we have had some patients on cortisone for two to four years, we stop the drug and they still have the disease, and they go into a very severe relapse, so I am not very happy about the use of either cortisone or hydrocortisone as a cure in this disease.

Dr. Engleman: I don't think anybody has claimed a cure, Dr. Mettier, in all fairness to everybody concerned. In other words, you don't think there's essentially any difference between cortisone and hydrocortisone from a practical point of view? Dr. Davison?

Dr. Davison: Well, in view of the fact that I have so few patients on hydrocortisone, I don't think that any opinion that I express would be worth while. I avoid the use of steroids in treatment of rheumatic arthritis whenever I can.

Dr. Engleman: Dr. Weinberger?

Dr. Weinberger: I think a very excellent study reported by the Mayo Clinic indicates that there is very little difference between hydrocortisone and cortisone. The difference in the dosage requirement seems to be related to the size of the molecule. The hydrocortisone free alcohol weighs less than the cortisone acetate.

Dr. Engleman: Dr. Sacasa?

Dr. Sacasa: As far as the dose is concerned hydrocortisone may be slightly more effective, but in my experience it hasn't been one and one-half times more effective than cortisone. Regarding side effects, undesirable though physiological or pharmacological, I think they are essentially the same. Milligram for milligram, hydrocortisone is possibly less likely to induce them.

Dr. Engleman: Dr. Headley?

Dr. Headley: In my experience hydrocortisone is definitely superior to cortisone. It has two main advantages: First, hydrocortisone is a more potent drug than cortisone and hence one can maintain the same improvement with smaller doses. Second, there is less tendency toward some adverse effects, possibly because a smaller amount of the drug is required. Many patients in whom cortisone has seemed to have lost its effect can be transferred to hydrocortisone in equivalent or smaller doses with definite improvement of symptoms. The main objection to hydrocortisone has been its greater cost. However, this difference in price is gradually being overcome, and at present there is very little difference in the cost of these two drugs, considering one does not require as much of the hydrocortisone. Hence we have now transferred practically all of our patients who have been on cortisone to hydrocortisone.

DR. ENGLEMAN: What dose do you use, Dr. Headley?

DR. HEADLEY: We seldom use an initial suppressive dose of over 50 mg. of hydrocortisone daily. Again let me emphasize that this hormone also is more effective if given in four divided doses daily. Usually after three or four weeks we are able to gradually reduce the dosage to maintenance levels. The drug is usually reduced 5 mg. (one-half tablet) every 10 to 14 days. We are able to maintain most of our patients on between 30 and 50 mg. of hydrocortisone daily.

DR. ENGLEMAN: I think it is perfectly obvious to all of us that there is very little agreement on the subject of steroids and their use in rheumatoid arthritis. At the risk of making the subject more confusing, I would like to offer one or two observations. I think that it is important to distinguish between the subjective and objective effects of these steroids. In other words cortisone or hydrocortisone can make a patient much more comfortable and functional despite the presence of progressing disease. We have recently completed some long term studies and have found that approximately half of our patients have shown actual progression of their disease despite the fact that many of them felt improved and were better able to perform daily duties. Even if we don't arrest the disease we afford symptomatic improvement, the significance of which should not be minimized. The matter of undesirable effects is, of course, extremely important. Our own experience is not quite as dismal as Dr. Weinberger's; our incidence of serious undesirable effects is in the neighborhood of 10 per cent. I would like to keep an open mind on the subject, and would say that for the moment we must balance the desirability of symptomatic and functional improvement against the likelihood of serious undesirable effects.

Now, the next question is equally important: **What are the indications for withdrawal of cortisone, and, even more important, how is this best done?** Dr. Headley?

DR. HEADLEY: Cortisone or hydrocortisone should be withdrawn whenever any serious adverse effects occur. The most common adverse reaction is, of course, the development of Cushing's syndrome. If this is mild, the hormone does not necessarily have to be completely withdrawn. Often these symptoms will subside with reduction in the dosage. If the dose cannot be lowered sufficiently without losing control of the arthritis, then the patient has to share with the doctor the responsibility of continuing the hormone. Some of the adverse effects can be controlled with adjuvant measures, such as low-caloric, low-salt diet to prevent weight gain. In patients with latent diabetes glycosuria may develop. This may be controlled by reduction of dosage. If the diabetes becomes moderately severe with continued administration of the hormone, then it must be discontinued. Adrenal steroids, of course, must be withdrawn in any patient who develops an active peptic ulcer, active tuberculosis or a psychosis. These hormones sometimes have to be discontinued when the patient becomes resistant to the drug and the disease can no longer be controlled with safe maintenance doses. Occasionally the rheumatoid arthritis goes into remission, and when it does the cortisone or hydrocortisone should be withdrawn.

DR. ENGLEMAN: Do you withdraw very gradually?

DR. HEADLEY: Yes, regardless of why the adrenal steroid is discontinued it must be withdrawn very gradually. With cortisone, the dosage should be decreased by 12.5 mg. every 10 to 14 days, and with hydrocortisone it should be decreased 10 mg., or preferably 5 mg., every 10 to 14 days.

DR. ENGLEMAN: Does anybody on the panel use cortisone or hydrocortisone in the treatment of hypertrophic arthritis or degenerative joint disease?

DR. WEINBERGER: Yes, I do. You mean any form of these steroids?

DR. ENGLEMAN: I mean orally.

DR. WEINBERGER: I don't orally. I was referring to the intra-articular use.

DR. ENGLEMAN: Yes, all right. Does anybody on the panel use it systemically for the treatment of hypertrophic arthritis? Nobody? Then the next question is: **When are the intra-articular injections of hydrocortisone acetate indicated, and are there any contraindications or dangers in this procedure?** Dr. Davison?

DR. DAVISON: I don't like intra-articular injections of hydrocortisone in rheumatoid arthritis any more than I like the systemic use of the steroids in the treatment of the disease. In an occasional case in which the disease is well controlled except for residual swelling and effusion in one joint, a few injections of hydrocortisone will help to prevent the recurrence of that effusion, distention of the joint capsule and a weak joint. In those instances, I think, perhaps it may be justified. I have used hydrocortisone intra-articularly in patients with osteoarthritis very extensively. I think we now have somewhere between 5,000 and 6,000 injections of intra-articular hydrocortisone in our clinic and private practice with very happy results. In the use of intra-articular injections in these patients we feel entirely different. These patients are anywhere from 65 to 80 years of age; they have great difficulty getting about, and we feel that by relieving the pain we make it possible for them to get about and do things. As we are treating them at a time when any damage that might result from the steroid in the joint is minimal, we feel that this treatment is justified.

DR. ENGLEMAN: Is there any comment, insofar as disagreement is concerned, from the panel?

DR. HEADLEY: I'd like to make one point: You must distinguish between hydrocortisone (free alcohol) and hydrocortisone acetate. You even see papers written where that distinction is not made. and there is considerable difference. It is the hydrocortisone acetate that is used intra-articularly.

DR. WEINBERGER: I think that very frequently the intra-articular use of hydrocortisone acetate in rheumatoid arthritis is a valuable procedure. Not infrequently I aspirate fluid from joints for diagnostic purposes, and at the same time it is convenient while the needle is still in to put hydrocortisone acetate into the joint. This affords a good deal of symptomatic relief and will be an adjunct to physical therapy. I think, too, it is valuable in the case of degenerative joint disease, for the symptoms are of relatively short duration and one can tide the patient over an acute episode without being chained to using this repeatedly. If there is even a slight question that tuberculous or other infectious arthritis might be present, one should not attempt intra-articular injection. I'd like to expand this question, too, to include the local use of cortisone or hydrocortisone acetate elsewhere. I think rheumatoid iritis is one of the strongest indications for local therapy. It can be one of the most important measures in preserving vision. Blindness may result from rheumatoid iritis.

DR. ENGLEMAN: If there is no additional comment from the panel, we shall proceed to another subject. I must apologize, gentlemen; we've just been deluged with questions. We feel very gratified that we've been able to provoke these questions, but the shortage of time is such that we can't possibly answer all questions. I should like to proceed now to the matter of therapy with gold salts. **What is the present status of chrysotherapy and under what circumstances do you use gold?** Dr. Mettier?

DR. METTIER: In our clinic we have been using gold salts since 1940. It is very gratifying, when you get a patient with rheumatoid arthritis with swelling of the joints, to start him out on gold therapy and then perhaps after the injection of nine to fifteen doses, observe that the symptoms begin to subside. Our results have been recorded and we feel that we get satisfactory results in around 75 per cent of patients. However, I think Dr. Davison and I are now getting old enough so that we can be a little less exuberant about some of the treatments. I begin to find, disappointingly, that some of the patients even after they have responded to treatment will go into relapse while they are actually getting the drug. However, I still feel that it is the best drug that we have for the control of symptoms.

DR. ENGLEMAN: Excuse me. Dr. Mettier, before you arrived we decided that aspirin was the drug of choice.

DR. METTIER: Thank you very much, I agree with you. For the benefit of the audience I would like to say that we are of no definite mind up here, because we don't know the cause of this disease. We don't have the exact cure. What we're trying to do is gain experience with various drugs so that after the end of ten or fifteen or twenty years perhaps we can say, yes. this drug is of value or of no value. And now, at the end of fifteen years' experience with the use of gold, I prefer it to any of the others—to cortisone, for example.

DR. ENGLEMAN: Do we have any comment from the "younger" men?

DR. WEINBERGER: Dr. Mettier was one of my teachers in medical school and in my training and I am delighted to have this opportunity to disagree with him! It rarely came up before. The natural history of rheumatoid arthritis has been defined by the studies of Short and Bauer. They have indicated that the results with conservative methods of treatment are slightly better than the results reported by the most enthusiastic investigators using gold or any other method.

DR. HEADLEY: I would like to agree with Dr. Mettier. I think gold is a very excellent form of therapy for rheumatoid arthritis. We have used chrysotherapy for more than ten years in a large number of patients. Many of these patients have gone into clinical remission with gold salts and the remission has been sustained with maintenance doses. We usually give 50 mg. intramuscularly each week until between 1,000 and 1,500 mg. of the soluble salt, such as Solganal® or Myochrysine,® has been administered. Patients are then placed on a maintenance schedule of 50 mg. approximately every three weeks. Occasionally a one-week or two-week schedule may be reverted to for a short period during an acute flare-up of arthritis. In addition to the beneficial effect gold has on the disease process itself, I think it serves a very useful purpose in keeping the patient in close contact with the physician. We do not allow nurses in our office to give these injections, and by giving them ourselves we are forced to have frequent personal contact with the patient. This affords an opportunity to reevaluate the patient and be sure he is getting his rest, both mental and physical. The physiotherapeutic measures can be reemphasized and encouragement can be given so that the patient feels his doctor is sincerely interested in him and the many problems that are constantly arising. I believe that some of our patients who have been on chrysotherapy for a long period are some of our most satisfied patients.

DR. ENGLEMAN: Dr. Headley, do you have any comment regarding the toxic effects of gold?

DR. HEADLEY: Toxicity does occur with chrysotherapy. Fortunately it is not too frequent and usually not too severe. The most common toxic effects are skin rashes, pruritus and stomatitis. When these do occur, the administration of gold usually only has to be discontinued for a short period of time. This is particularly true if the adverse effects are recognized early. That is why it is so important to carefully check these patients each time before gold salts are administered. After the toxic effects have subsided, frequently the gold can be readministered, starting with much smaller doses, such as 10 mg., and gradually increasing to full dosage schedule. However, if further toxicity occurs, particularly while on the smaller doses, then this form of therapy should in all probability be discontinued. I might say that when more severe forms of gold toxicity do occur, often the use of cortisone or hydrocortisone is of considerable benefit.

Dr. Mettier: Dr. Engleman, I might just make a remark or two concerning the toxic reactions of gold. We've had only one death and that was from very severe exfoliative dermatitis in a patient involving the skin over his entire body and the mucous membrane of the gastrointestinal tract. We've had one or two other cases of severe exfoliative dermatitis but fortunately the patients pulled through possibly with the aid of British anti-Lewisite. Skin reaction is the most frequent reaction, and if you use gold you must ask the patient each time he comes in whether he has a rash or itching in the skin. What hasn't been mentioned is that patients receiving gold therapy sometimes have thrombocytopenia with purpuric phenomenon. I reported cases of this kind a few years ago. We had to do splenectomy on only one case. After the drug had been stopped the platelets came back to normal. We've had no evidence of nephritis or hepatitis in any of our patients.

Dr. Engleman: Dr. Davison has an additional comment.

Dr. Davison: I have just one comment about gold salts: Be sure you use a soluble gold salt such as auro thioglucose (Solganal) or Myochrysine which is a sodium thiomalate, but do not use any of the insoluble gold salts because of deposition of gold in the tissues which is very difficult to remove. Toxicity from insoluble salts is almost impossible to correct.

Dr. Engleman: I would like to make one comment, and that is that I am in complete agreement with Dr. Weinberger on the subject of gold. **What is the present status of phenylbutazone in the treatment of rheumatoid arthritis?** Dr. Sacasa?

Dr. Sacasa: I have not used phenylbutazone in the treatment of rheumatoid arthritis with the exception of a few cases of psoriatic arthritis, generally considered to be a rheumatoid variant. Consequently my experience with phenylbutazone in the treatment of rheumatoid arthritis is very limited.

Dr. Engleman: Do you want to say why you don't use it?

Dr. Sacasa: I believe that phenylbutazone is too dangerous for prolonged administration. Rheumatoid arthritis is a chronic disease and once you embark on therapy of this sort you may have to carry it on for months or even years, which may prove to be too risky in the case of phenylbutazone. I believe that this drug may be used to advantage in some acute conditions, but this is not in the realm of the question.

Dr. Engleman: Dr. Weinberger?

Dr. Weinberger: Phenylbutazone would be an excellent drug for the treatment of rheumatoid arthritis, since its analgesic properties are very remarkable; but unfortunately it is a very dangerous one. There have been a number of deaths from it and the complications are not predictable as one would like them to be. One must recognize that the patient will be under treatment for months to years and for that reason cannot use a drug with such serious toxic effects. Dr. Engleman has reported, or will report, some of these very serious reactions and I hope that he will mention some of them today. We recently had a patient who had a renal shut-down on very small doses and after only a few tablets. We have seen hepatitis in addition to the usual complications that have been publicized.

Dr. Engleman: Dr. Davison?

Dr. Davison: My only comment is that I agree with all that has been said. I think that phenylbutazone is an extremely dangerous drug and the bad part of it is that you may have a patient whom you carry along for several months and who is apparently doing all right, then, unpredictably, a severe toxic reaction develops and is very difficult to control.

Dr. Mettier: We have been using phenylbutazone for almost three years. There is no doubt that the patients get considerable relief from pain, as Dr. Weinberger said. We have had a few patients who have had bleeding from the stomach, presumably due to an ulcer. One patient had to be operated upon. We have had a few with skin reactions and a few patients with thrombocytopenia. One patient died but after postmortem examination I think, Dr. Engleman, there was a great deal of question as to whether that patient died as a result of phenylbutazone. I am quite content to carry some of these patients on a dose of 100 mg. twice or three times a day because I think they get more relief from this than they do from the use of aspirin.

Dr. Engleman: Well, I am in complete agreement with everybody except Dr. Mettier. I'm very apprehensive concerning the undesirable and serious toxic effects of phenylbutazone. We've had two instances of agranulocytosis, and one of the patients died. I don't think there was any question concerning the relationship between phenylbutazone and agranulocytosis. We've had several instances of very serious ulcerative lesions of the stomach and of the colon with hemorrhages; there have been cases of perforation. Exfoliative dermatitis has been reported. We have now had six instances of hepatitis; Dr. James Rinehart, pathologist, agrees that this is a toxic hepatitis; and as far as I am concerned there is no question concerning the relationship of the hepatitis to the administration of phenylbutazone.

We have some questions that can be answered very briefly. **What is the present status of vaccine or fever therapy?** Dr. Davison?

Dr. Davison: It went out in the Middle Ages.

What is the present status of massive doses of vitamin B_{12}? Dr. Mettier?

Dr. Mettier: None.

What is the present status of the use of postpartum plasma? Dr. Headley?

Dr. Headley: Emphatically none.

Dr. Engleman: I don't know what goes on in Southern California, but there have been several **questions here concerning ultrasonic therapy.** (Laughter.) Dr. Weinberger, would you like to discuss this?

Dr. Weinberger: Ultrasonic therapy is a measure of unproved value.

What is the present status of x-ray therapy? Dr. Sacasa?

Dr. Sacasa: I believe x-ray therapy is the No. 1 therapeutic agent that we have at our disposal in the treatment of rheumatoid spondylitis. Whether it arrests the disease or is merely palliative does not concern us at the moment. I believe that it helps to relieve symptoms in about 80 per cent of the patients.

Dr. Engleman: Dr. Mettier?

Dr. Mettier: We have used roentgen irradiation of the spine in Marie-Strumpell disease since 1942. I think the results we have obtained have been wonderful. Patients going back that far have come in, and, as far as we can confirm, the disease has been arrested. There have been a few exceptions where there has been a relapse and we have had to give a second course of treatment. In patients who have had disease for a long time with pronounced deformity of the spine, still having pain, obtain relief from pain by the use of x-ray although it may not change the spine very much. Along with the x-ray therapy we give physical therapy, which I think is of some advantage.

Dr. Engleman: This, now, is referring to spondylitis. Dr. Headley?

Dr. Headley: I would like to make just one remark. I think Dr. Mettier and Dr. Sacasa will agree that when roentgen therapy is given for rheumatoid spondylitis, all segments of the spine which are clinically affected (as manifest by pain, tenderness, limitation of motion) should be treated, even though they may not as yet be roentgenographically involved. We usually give a total of approximately 600 roentgen units to each area of the spine where the disease is clinically active.

Dr. Engleman: May I assume that most of us would agree that x-ray therapy probably is not indicated in rheumatoid arthritis of the peripheral joints?

Dr. Mettier: Occasionally we see a patient who may have swelling of the knee with pronounced pain, and we have had some dramatic results with the use of x-ray therapy in such cases. I do not recommend it in general in the treatment of rheumatoid arthritis, but for treating isolated swelling in a knee, I do think it is of value.

Dr. Davison: I agree with Dr. Mettier on that. My experience in the treatment of spondylitis has not been quite so favorable. Certainly, roentgen therapy gives excellent symptomatic relief in a very high percentage of patients, as Dr. Sacasa pointed out, but unfortunately about 40 per cent of patients that we treated with roentgen therapy have had some relapse.

Dr. Engleman: We have a few questions on gout and hypertrophic arthritis. Now, Dr. Rhinelander has been awfully silent and I've been just dying to ask him a question, and so here goes: **What can be done for osteoarthritis of the hip, malum coxae senilis?**

Dr. Rhinelander: That's a very large question.

Dr. Engleman: Just make it brief (Laughter.)

Dr. Rhinelander: I think the basis is what was discussed earlier—rest. If a joint is involved and is painful, a hip joint in malum coxae senilis, you must tell the patient to spare the joint as much as he can. He must avoid all unnecessary walking, he must avoid climbing stairs, and such. Sometimes a type of brace which limits the motion can help, say one that prevents rotation and permits only flexion and extension. (I am discussing orthopedic aspects only. I guess the others will come up later on.) As a last resort operation can be done if the pain is very severe, if the degenerative changes are very extreme. I think in most instances if arthroplasty is done well, the pain can be relieved. But you cannot anywhere near promise the patient a normal joint. He may have to be on crutches after the operation for six to twelve months or even permanently. I think the use of crutches is one of the most important measures and should be begun quite early. If a patient has a painful hip joint, put him on crutches. A cane doesn't do much good. It just helps balance, it doesn't take any weight off the joint. I think the first thing to do is to rest the joint, which includes sparing it as much as possible, limiting activities, and using crutches.

Dr. Engleman: Do we have any additional comments from the internists?

DR. METTIER: I think that a certain amount of exercise should be given the patient. And you may disagree with me on this, but in people about 80 years of age who have malum coxae senilis, you'd be surprised at what gratifying results you get in the use of oral cortisone.

DR. DAVISON: If we put these people who are 75 and 80 to bed, we must think about what happens to them. Not only do they get other things from being put to bed, but also they don't want to be put to bed! They want to be up and they want to climb stairs! I think that while arthroplastic operations are sometimes very valuable, a good many of these patients are not good subjects for operation. I would advise the use of intra-articular hydrocortisone in many of these patients. Sometimes you have to give only one injection every three or four weeks. We've had patients who have gone as long as eight weeks between injections who were perfectly comfortable. It is very gratifying when a man, say 75 years of age, who is brought to your office in a wheelchair is given an injection of hydrocortisone into the hip and returns two weeks later saying, "Doctor, I can go up and down stairs without pain now."

DR. ENGLEMAN: Dr. Mettier, **what is the best treatment for hypertrophic arthritis of the cervical spine?**

DR. METTIER: This is a very common condition, I'm sure all of us will agree. Hypertrophic arthritis of the cervical spine means that there is a lot of radiculitis and muscle spasm. I think that aspirin, again, is the best drug to relieve pain, but combined with that is infrared, massage to reduce muscle spasm, and gentle manipulation and stretching of the neck to begin with and, later, use of a halter in order to stretch the joints and the muscles. I wish to emphasize that this is a disease that comes on over a period of years. The patient expects immediate relief and it does not happen. Patients have to have treatment over a period of several months and then they have to have treatment over a period of time from then on for many years, so I wish to emphasize that there is no immediate cure or results and that treatment carried on over a long period is needed.

DR. ENGLEMAN: Dr. Headley, **what is the best therapy for acute gouty arthritis?**

DR. HEADLEY: Colchicine is still, in my opinion, the best therapeutic agent for an attack of acute gouty arthritis: 0.6 mg. of colchicine should be given every two hours until the patient has gastrointestinal symptoms, such as nausea, vomiting, abdominal cramping, diarrhea, etc., or until a total of 12 to 14 tablets have been taken. In addition, the patient should be put at bed rest with complete immobility of the involved joint. This usually is no problem, as the joint is so painful and tender that the patient cannot bear weight on it. Elevation of the affected joint sometimes is beneficial, and either hot or cold packs (whichever give the patient most relief) can be applied. Then the patient must be given whatever kind of analgesic agent is required to alleviate the severe, agonizing pain. This is one of the few places in the treatment of arthritis where the use of narcotics may be justified. If codeine does not give relief, we sometimes have to give stronger narcotics, such as Demerol or morphine (one or two injections) until the colchicine has had a chance to provide relief. The involved joint should be protected from weight of bedclothes by use of a cradle if a joint of a lower extremity is involved. The patient should also probably be placed on a purine-free diet. There are other effective drugs which recently have been used. Often dramatic results can be achieved by the use of phenylbutazone. It is particularly efficacious in acute gouty arthritis because one is dealing with short-term therapy and hence the patient is not subjected to the risks involved with this drug when used for a prolonged period, as in chronic rheumatoid arthritis. Cortisone and ACTH have both been used in acute gouty arthritis with good results, but recurrence of the acute arthritis is likely when these drugs are withdrawn. Intra-articular injections of hydrocortisone acetate sometimes are beneficial. However, one must remember that colchicine has one tremendous advantage over the above-mentioned drugs; that is, it is a specific drug for gouty arthritis. If colchicine is given early in an attack of acute gouty arthritis and no relief is obtained, one should question the diagnosis. Furthermore, colchicine has no effect on any other type of arthritis. Hence it can be used as a diagnostic as well as a therapeutic agent. At times it is very difficult to make a diagnosis of acute gouty arthritis if the patient is seen in his first attack or early in the disease. Therefore colchicine, because of its value diagnostically as well as therapeutically, remains after all these centuries the drug *par excellence* for acute gouty arthritis.

DR. ENGLEMAN: **Has anybody on the panel had experience with intravenous use of colchicine, and, if so, is there any advantage over colchicine given orally?**

DR. WEINBERGER: We have used colchicine intravenously. At times patients develop gastrointestinal irritation before they get a maximum dose of colchicine. One can give 3 mg. at 12-hour intervals and sometimes obtain relief promptly.

DR. ENGLEMAN: Following a patient's recovery from an acute attack of gouty arthritis, what advice do you give and how do you prevent recurrence?

DR. METTIER: My advice is to live a fairly normal life. I do not put him on a highly restricted purine diet; I do advise him to avoid excesses of fatty foods and rich foods. But I feel that we get best results by putting the patient on colchicine, and we have different ways of doing it. Some patients who have severe gout I have take two or three tablets every Monday and Friday. We have some patients who are taking one tablet of colchicine every day seven days a week. Some patients take just one or two tablets on Monday and Friday. We vary it a great deal, for we are trying to learn something about it.

Dr. Engleman: Is there any additional comment as to how one might prevent recurrences of acute gouty arthritis? Dr. Sacasa?

Dr. Sacasa: There is another long-term possibility, and this concerns the use of Benemid.® Some authorities believe that acute gouty attacks cannot occur in any given joint unless that joint is the site of at least a microscopic tophus. Since it has been shown that Benemid increases uric acid excretion and diminishes the size of the miscible pool of urates, it is presumed that by doing away with these minute crystals the possibility of gouty attacks in that particular joint may also be lessened. In passing I would like to state that Benemid is not beneficial and possibly is detrimental in the therapy of acute gouty arthritis.

Another approach, of course, as Dr. Mettier has mentioned, is maintenance doses of colchicine: and this has many advocates. Some believe that salicylates are a great benefit provided they are given in high doses in the realm of about 5 gm. a day, continuously or interruptedly. Finally, phenylbutazone has also been proposed for this purpose but here again, as in rheumatoid arthritis we are dealing with long term therapy and it may be fraught with considerable dangers. Cortisone, likewise, is being employed in the prevention of attacks of acute gouty arthritis. In most instances, however, the doses required are rather large and the side effects and dangers of large doses of cortisone for prolonged periods have already been emphasized.

Dr. Headley: As Dr. Sacasa has brought out, recent studies indicate that Benemid is probably the best uricosuric agent available, and furthermore, very little toxicity has been encountered with the use of this drug. Hence it should be a very good agent to use in the treatment of chronic gouty arthritis. However, I would like to say a word of caution. Benemid and salicylates have an antagonistic action and should not be used at the same time. It has been shown that salicylates decrease the uricosuric effect of Benemid.

Dr. Engleman: How much Benemid do you use?

Dr. Headley: I believe the most commonly accepted dosage of Benemid is 1.0 gm. daily. The patient is started with 0.5 gm. (one tablet) daily for a period of one week and then the dosage is increased to 1.0 gm. (one tablet morning and night). Some advocate larger doses—up to 2 gm. daily—but most investigators recommend 1 gm. daily.

Dr. Weinberger: I would like to emphasize the need for keeping the urine alkaline when giving Benemid. Uric acid stones occur normally in about 20 per cent of people with gout. When one promotes the excretion of urates the tendency to the formation of stones is enhanced, so that one should give sodium bicarbonate or potassium citrate in doses adequate to keep the urine alkaline. The patient should be given litmus paper and taught how to keep the urine alkaline to prevent the very serious complication of deposition of amorphous urates calculi in the urinary tract.

Dr. Engleman: You also keep the fluid intake up, don't you?

Dr. Weinberger: Yes—force fluids.

Dr. Engleman: What can be done for gouty arthritis after it has reached the chronic stage?

Dr. Headley: Colchicine and Benemid are the two most effective therapeutic drugs for chronic gouty arthritis. In general, the dosage and administration are essentially the same as previously discussed in the treatment of the intercritical stage of this disease. Cinchophen is now rarely used because of its toxic potentialities. There is considerable controversy as to diet. Some of us still believe that restriction of foods high in purine substances and avoidance of excessive use of alcohol may be of some importance. I would like to mention briefly the benefit that may be gained by surgical treatment in some selected patients with chronic deforming gouty arthritis. Some may be partially rehabilitated by the surgical removal of large subcutaneous tophi which are painful, unsightly or located so that they interfere with locomotion or with certain motions because of tendon involvement, or with wearing of clothing such as shoes. One thing should be stressed from the medical standpoint regarding any surgical treatment for patients with gouty arthritis. These patients should be placed on a purine-free diet and given colchicine, 0.6 mg. three or four times daily for at least three days before operation if possible. These measures should also be carried out during the surgical and immediate postoperative period. If patients are unable to take colchicine orally postoperatively, then it should be given intravenously. Penicillin should also be avoided in these patients to prevent the possibility of inducing an attack of acute arthritis.

Dr. Engleman: I hope everyone present has gotten as much out of these discussions as I have. Thank you.

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Prostatectomy in Private Practice

A Review of 589 Cases in a Five-Year Period

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- *Prostatectomy was done in 589 cases in a five-year period. The operation was done transurethrally in 530 cases of benign disease and in 50 cases of malignant lesions. In six cases of malignant disease and three of benign, open procedures were used.*

Results of transurethral prostatectomy were considered good or excellent in 94.4 per cent of the cases of benign hypertrophy and in 92 per cent of the cases of carcinoma.

It was felt that radical perineal prostatectomy was advisable for early operable cases of carcinoma, but that the transurethral procedure was more suitable in almost all cases of benign hypertrophy.

Data on 589 cases in which one or another of the authors carried out prostatectomy in a five-year period were reviewed to evaluate results, to compare them with results reported in a similar review published by the authors in 1949,[3] and to determine whether or not a change in approach to the problem might be advisable.

METHODS

The usual technique was employed in suprapubic and retropubic prostatectomy. No radical retropubic operations were done. The approach of Belt[1] was employed in all cases of perineal prostatectomy. The closure of Vest[7] was used in all the radical perineal operations.

Instruments employed in transurethral procedures included the Stern-McCarthy and the Nesbit resectoscopes or minor variations of the latter. Isotonic irrigating solutions were employed during the last two years of the period. Total enucleation of the adenomata was attempted transurethrally. Exposure of the soft circular fibers of the false capsule or the hard, glistening circular fibers of the true capsule from bladder neck to external sphincter was accomplished in most cases (Figures 1 and 2). In a few cases the operation was planned in two stages, and in an occasional case a second procedure was required because of technical reasons or because of unusual difficulty or inexperience of the surgeon. Rarely, an incomplete operation was not finished because functional result was adequate without it or because the patient did not return for the secondary procedure. In cases in which the disease of the prostate was benign, the transurethral operation was completed in one stage in 94.6 per cent, in two stages in 5.3 per cent, and in three stages in 0.1 per cent. Two stages were necessary in 4.0 per cent of cases of malignant disease.

Partial prostatectomy, "tunneling" or "reaming" operations were not done, although it is recognized that a considerable number of urologists still use such techniques.

Of the benign glands (530 cases), 99.4 per cent were removed transurethrally. Radical perineal prostatectomy was done in six of the 56 cases of malignant disease and transurethral operations in the other 50. In the same five-year period, 26 additional patients were diagnosed as having carcinoma of the prostate, but received no surgical treatment. The total with carcinoma, then, was 82 patients, of whom only six (7.3 per cent) had radical prostatectomy.

SUBJECTS (PREOPERATIVE) DATA

The records of the 589 consecutive patients of the series were selected after study of 607 case records. Eighteen cases were excluded because the prostate problem was minor. Data were incomplete in 26 cases but the cases were included in the series. Data were complete, including follow-up observation, in 95.6 per cent of the cases. Most of the patients were residents of San Diego County, but a few were from the Imperial Valley, Arizona or elsewhere. All were treated in private practice. The details from hospital and office charts were correlated on prepared protocols, after painstaking search by the authors, residents and trained personnel.

Table 1 is a summary of the preoperative details. Data on patients treated by open operation are listed in Tables 1 and 2 only to inform the reader, and not because of statistical importance or for comparative conclusions.

Submitted August 12, 1954.

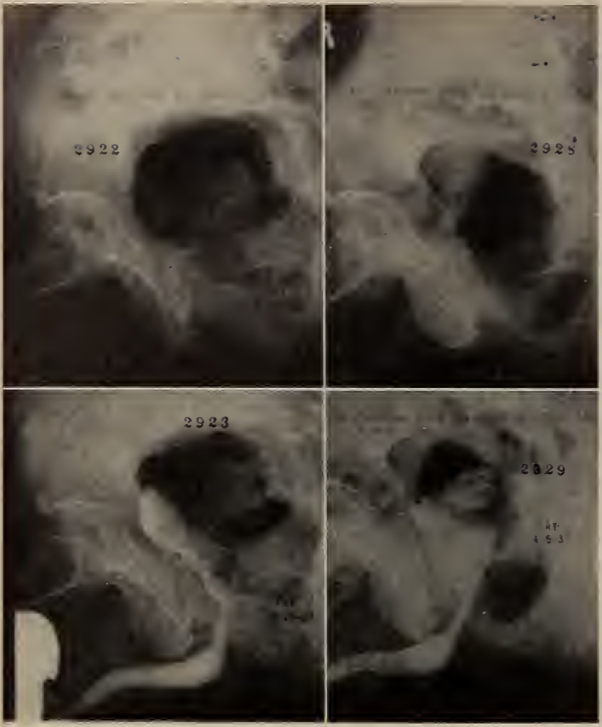

Figure 1—Results of complete enucleation of prostate transurethrally. Weight of removed tissue was 135 grams. *Upper left,* preoperative air cystogram. *Upper right,* postoperative air cystogram. *Lower left,* preoperative urethrogram. *Lower right,* postoperative urethrogram.

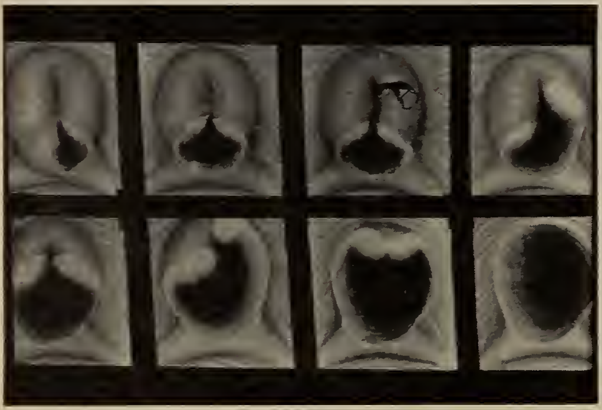

Figure 2—Schematic drawing of a method of transurethral prostatectomy, with final appearance and exposure of capsule from bladder neck to external sphincter.

All patients were operated on for objective reasons; rarely was a subjective indication a large factor. Ninety-two per cent had obstructive symptoms. The average age of patients who had transurethral operation was nearly 70 years, and the range was from 43 to 94 years. Nearly 45 per cent were fair or poor risks. Over 24 per cent had uremia, and 55 per cent had pyuria. Fifteen per cent had vesical atony. Urethral and meatal strictures were present in 17 per cent and 10 per cent, respectively. Associated conditions, including stones of all types, diverticula, reflux, renal changes other than uremia, and bladder tumor existed in nearly 30 per cent of the patients. Preoperative catheter drainage was needed in 40 per cent for an average of 22 days. Prophylactic prostatectomy was not done in any case.

TABLE 1.—*Preoperative data on 589 patients with prostatic disease*

	Benign 533 Cases	Malignant 56 Cases
Average age in years	69.5	69.6
Range of age	43–94	43–91
	Per Cent	Per Cent
Pyuria	56.0	52.0
Residual urine over 100 cc.	67.5	58.0
Uremia*	23.6	26.0
Associated disease	34.5	22.0
Metastasis	......	4.0
Previous prostatic operation	10.6	22.0
Risk—good or fair	87.1	76.0

*Urea nitrogen in blood more than 20 mg. per 100 cc.

POSTOPERATIVE DATA AND RESULTS

Open Operations. Table 2 is a summary of the postoperative data on these patients. Three with benign disease who had open operation—one suprapubic, one retropubic, and one perineal—had no important complication and results were good or excellent. All of six patients who had radical perineal prostatectomy had good or excellent results without major morbidity.

Transurethral Operations. Patients with malignant disease who were subjected to transurethral prostatectomy had about the same postoperative phenomena as did those with benign disease. The amount of tissue removed was less in patients with carcinoma, and more of them had persistent pyuria, but none had bladder neck contracture. One patient with malignant disease later received suprapubic injection of Au_{198}.

The largest amount of tissue removed at one operation was 118 gm. The weight of the gland removed exceeded 40 gm. in 29.4 per cent of the cases. Ten patients had more than 100 grams removed transurethrally, and in four this was done in one stage. It has been estimated that 20 per cent shrinkage of weight occurs in electroresection of prostate tissue.[6]

Extravasation of urine occurred in 0.8 per cent of the 530 patients with benign disease. Drainage was not necessary in all cases of extravasation. Permanent incontinence resulted in 0.6 per cent of the patients. Early hemorrhage occurred in 3.4 per cent of cases, and two patients died of it. Late hemorrhage, which occurred in 4.1 per cent of cases, was not serious; in the main all that was necessary was evacuation of clots as a procedure in the office. Lower nephron nephrosis occurred in 0.9 per cent

TABLE 2.—*Results of surgical treatment of 589 patients with prostatic disease*

	Benign Disease		Malignant Disease	
	Transurethral 530 Cases	Open 3 Cases	Transurethral 50 Cases	Radical Perineal 6 Cases
Catheter out—days postoperatively	3.5	10.33	4.0	21
Hospital—days postoperatively	5.92	18.0	6.0	23
Weight of tissue removed (grams)	32.5	129.6	17.0	31.0
Range of weight of gland (grams)	5–134	95–187	5–45	25–51
	Per Cent	Per Cent	Per Cent	Per Cent
Tissue left	3.4	0	2.0	0
Persistent pyuria	3.8	0	10.0	0
Incontinence, temporary	5.8	66.6	4.0	100
Incontinence, permanent	0.6	0	0	0
Extravasation	0.8	0	2.0	0
Hemorrhage, early	3.4	0	0	0
Hemorrhage, late	4.1	0	2.0	0
Lower nephron nephrosis	0.9	0	0	0
Epididymitis	5.0	0	0	0
Stricture of urethra	3.9	0	2.0	0
Stricture of meatus	6.2	0	6.0	0
Periurethral abscess	0.1	0	2.0	0
Bladder neck contracture	4.9	0	0	0
Fever of 102° F. or above	9.8	33.3	6.0	33.0
Mortality	1.7	0	2.0	0
Results—				
Excellent	68.3	66.7	52.0	66.7
Good	26.1	33.3	40.0	33.3
Fair	4.3	.....	4.0	.....
Bad	1.3	.....	4.0	.....

and caused the death of two patients. It did not occur after the use of isotonic irrigating solution was begun.

Epididymitis, meatal and urethral strictures occurred with moderate frequency. Nearly routine vasectomy in the present series reduced incidence to 5 per cent from 10 per cent in a previous series.[3] However, in the group of 77 patients with intact vasa, the incidence of these complications was only 2.6 per cent. Any "gripping" of a No. 20 (French) sound passed routinely after the twenty-first day was considered evidence of stricture. Actually troublesome meatal or urethral strictures occurred in less than 1 per cent of patients.

Bladder neck contracture, when present, was not troublesome. It could be predicted in cases of hypertrophy of the small fibrous type.

Associated procedures, other than vasectomy and meatotomy, included litholapaxy, in 5 per cent of patients, resection of carcinoma of the bladder in 6.4 per cent, and cystostomy in 0.5 per cent of those with benign disease. External urethrotomy was not necessary in any case.

The mortality rate was 1.7 per cent in the group with benign and 2 per cent in the group with malignant disease treated transurethrally. Autopsy was done in six of the nine cases in which the patient died. Two died on the tenth day, of lower nephron nephrosis. One died on the day of operation of extravasation with shock due to excessive water pressure. Two died of postoperative hemorrhage on the second day. Two died of progressive heart failure on the eighth and eleventh postoperative days. Two died of bronchopneumonia and senile inanition on the 35th and 36th postoperative days. The latter of these also had recurrent carcinoma of the colon metastatic to the bladder. Six of the patients who died were over 80 years old, and the average age for the group was 79.4 years. The one death among the cancer patients occurred on the first postoperative day and was caused by massive hemorrhage from metastatic cancer in the upper retroperitoneal space.

The results of transurethral prostatectomy were good or excellent in 94.4 per cent of patients with benign hypertrophy and in 92 per cent of those with carcinoma. The latter are more difficult to evaluate and, in all probability, the ultimate results will be changed. Complications, death and poor results are more likely in patients of advanced age.

DISCUSSION

The authors' results in this group are much better than those reported in the 1949 study.[3] The results listed above are better than any noted for a comparable series in which open prostatectomy was used and they compare favorably with the transurethral prostatectomy results obtained by other observers.[2] Therefore, the authors feel no need to change their indication for, or methods of treating prostatic obstruction. It is felt wise to continue to use radical perineal prostatectomy for operable cancer. Open operations will be indicated by ankylosis of the hips or by extremely large size of the gland.

Results of a recent survey which the authors made of West Coast cities indicated that 90 per cent of urologists skilled in transurethral prostatectomy were trained in, or by men from, the middle west. Likewise, the survey revealed that not more than one or two centers were giving adequate training to residents in transurethral skills. Observation also indicated that many residents, inadequately trained in transurethral prostatectomy, but adequately schooled in perineal operation, change to the abdominal approach after entering practice. Apparently, there is a great bias among West Coast urologists against transurethral operation.

The solution of the problem is to emphasize transurethral skills in resident training in more of the centers on the West Coast. This requires able, skillful teachers to instill self-confidence in the resident and to develop his confidence in the procedure. Open suprapubic and retropubic operation can be learned in a short time. The perineal operation is even easier to do, once entrance is made beyond the rectourethralis muscle, but it take longer to master. The transurethral operation is much more exacting. Much more time, teaching and experience must be given the resident in transurethral operation. Thus, the neophyte will develop basic dexterity for future improvement. He will then apply his skill according to true indication, with full confidence in himself and in the method. He will not discard the more difficult transurethral operation for the easier (on the surgeon) abdominal approach.

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REFERENCES

1. Belt, E., Ebert, C. E., and Surber, A. C.: A new anatomic approach in perineal prostatectomy, J. Urol., 41:482-497, April 1939.
2. Creevy, C. D.: The mortality of transurethral prostatic resection, J. Urol., 65:876-882, May 1951.
3. Mullenix, R. B., and Prentiss, R. J.: Transurethral prostatectomies, Calif. Med., 71:269-270, October 1949.
4. Mullenix, R. B., and Prentiss, R. J.: Conservative treatment of highly obstructive cancer of the prostate, J. Urol., 65:608-610, April 1951.
5. Nesbit, R. M.: Transurethral resection for prostatic hypertrophies of large size, S. G. & O., 81:515-520, July 1945.
6. Rubin, J. S.: Prostatic tissue weight loss during resection, J. Urol., 63:887, May 1950.
7. Vest, S. A.: Perineal prostatectomy. Modification of closure, Surgery, 8:798-803, November 1940.

Prostatectomy in a County Hospital

A Review of 677 Cases in a Six-Year Period

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• *Transurethral procedures were used in 620 of 677 cases in which prostatectomy was done (principally by residents supervised by a urologist) at a county hospital in a six-year period. Open operations were used in the other 57 cases.*

Results were classified as "excellent" in 46.8 per cent of the transurethral cases and as "good" in 36.3 per cent.

A FACTUAL REPORT and a critical analysis of the results of prostatectomy done in the San Diego County Hospital over a period of six years, 1947 to 1953, is presented. The patients were operated upon almost entirely (97.5 per cent) by residents under the supervision of visiting staff members. For purposes of teaching, all methods were employed, but in the majority of cases the transurethral method was used.

The total number of cases reviewed was 737. Sixty cases were excluded from the series because of poor follow-up or incomplete records. This left 677 consecutive cases. Transurethral prostatectomy was performed on 620 patients (91.6 per cent). Open prostatectomy by one of the three classical methods was used in 57 cases (8.4 per cent). Of the patients subjected to transurethral prostatectomy, 79.9 per cent had benign and 11.9 per cent had malignant prostatic obstruction. In the cases in which open operation was done, the routes chosen were: retropubic, 1.5 per cent; suprapubic, 3.5 per cent; and perineal, 3.4 per cent. In three cases radical perineal prostatectomy was done. The open prostatectomies are not included for statistical value, but to emphasize the authors' recognition of methods other than the transurethral.

PREOPERATIVE DATA

The operative risk of the patients in this group was far worse than in any comparable series of private patients, but was similar to that in other charity institutions. The average age of the group was 73.4 years, and the operative risk was estimated at poor to fair in 63 per cent. Obstructive symptoms were found in 92.9 per cent, and 41.6 per cent of the patients had uremia. The high incidence of preoperative urethral stricture (22.1 per cent) further increased the operative risk (see Table 1).

OPERATIVE DATA

Transurethral prostatectomy was completed in one stage in 85.6 per cent, in two stages in 13.9 per cent, and in three stages in 0.5 per cent of the patients. The average weight of tissue removed transurethrally was 25.2 grams from patients with malignant disease, and 31.5 grams from those with benign hypertrophy (see Table 2). More than 40 grams was removed in 29 per cent of cases and more than 100 grams in 3 per cent. As little as 4 grams and as much as 214 grams was removed transurethrally. The largest amount of tissue removed at a single operation was 190 grams. The average amount of tissue removed by open prostatectomy was 104 grams. This weight range varied from 35 to 340 grams. Loss of blood, as measured during 173 transurethral operations, averaged 230 cc., or 6 cc. per gram of tissue removed. Ten patients who had open operation had an average blood loss of 506 cc., or 5 cc. per gram of tissue removed. Associated operative procedures, including vasectomy, meatotomy, litholopaxy, perineal urethrotomy and transurethral resection of bladder tumors, were carried out in 65.7 per cent of the cases.

POSTOPERATIVE DATA

The catheter was removed on the fifth day after transurethral operation and on the fifteenth day after open operation. The average postoperative hospital stay was nine days after transurethral prostatectomy and 18 days after open operation. It is estimated that the need for domiciliary care for many of the patients increased the average stay by at least three days. The corrected figures, then, would be six days after transurethral and 15 days after open prostatectomy. Stricture of the urethra, as interpreted by any tightness to a No. 20 sound 30 days after operation, occurred in 9.5 per cent of patients subjected to transurethral prostatectomy. True stricture in the ordinary sense of the word occurred in less than 2 per cent. Bladder neck contrac-

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Submitted August 12, 1954.

TABLE 1.—*Preoperative data on 677 patients with prostatic disease*

	Transurethral Prostatectomy	Open Prostatectomy
Average age (years)	73.3	74.7
	(Per cent)	(Per cent)
Pyuria	67.3	52.6
Uremia	41.6	33.3
Residual Urine—above 100 cc.	80.0	78.0
Stricture of Urethra	22.1	14.0
Previous Prostatic Operations:		
Transurethral	13.9	7.0
Open	1.1	0.0
Risk: Good	36.1	36.8

TABLE 2.—*Results of surgical treatment of 677 patients with prostatic disease*

	Transurethral 620 Cases	Open Operation 57 Cases
Catheter out (days postoperative)	5.1	15.2
Hospital (days postoperative)	9.0	18.0
Average Weight of Tissue Removed (grams)	31.5	104.1
Persistent Pyuria (months)	4.5	5.4
	(Per cent)	(Per cent)
Tissue Left	3.8	7.8
Incontinence, Temporary	14.5	31.6
Incontinence, Permanent	1.8	0
Extravasation	2.6	0
Hemorrhage, Early	4.2	3.5
Hemorrhage, Late	4.4	1.8
Lower Nephron Nephrosis	0.5	1.75
Epididymitis	6.1	12.3
Stricture of Urethra	9.5	0
Stricture of Meatus	3.3	0
Periurethral Abscess	0.2	0
Bladder Neck Contracture	2.6	5.3
Fever of 102 Degrees F. or above	22.6	42.1
Mortality	3.7	10.5
Results:		
Excellent	46.8	31.6
Good	36.3	43.8
Fair	8.2	12.3
Bad	8.7	12.3

ture occurred in 2.6 per cent of patients who had transurethral and in 5.3 per cent of those who had open prostatectomy. Nearly all the patients in the series were examined cystoscopically after operation. This led to the discovery of residual tissue in the prostatic fossa in 3.8 per cent of patients after transurethral and in 7.8 per cent after open prostatectomy.

MORTALITY AND RESULTS

The mortality rate in the group subjected to transurethral operation was 3.7 per cent, and in the open prostatectomy group it was 10.5 per cent. Of the 23 patients who died after transurethral prostatectomy, six died of coronary occlusion, four of pulmonary embolus, three of lower nephron nephrosis, four of septicemia, one of uremia and five of progressive cardiac decompensation. Cause of death was verified by autopsy in 20 of the 23 cases. The average age of these patients was 78 years. Of the six patients who died after open prostatectomy, two died of postoperative shock and hemorrhage, one of pulmonary embolus, one of myocardial infarction and two of inanition.

The final clinical results were excellent or good in 83 per cent of patients who had transurethral prostatectomy and in 75 per cent of those who had open operation.

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Detection of Cancer of the Lung

Results of a Chest X-ray Survey in Los Angeles

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• *In a mass survey by x-ray minifilm in Los Angeles County, apparently suspicion of cancer of the lung was reported in more than 90 per cent of cases in which the condition existed.*

Of the patients who were appropriate for resection with intent to cure, 35.8 per cent had "three-year cures." This high cure rate indicates that if the condition is detected early by the survey method and "curative" operation is done, cure rate for lung cancer may be much higher than is usually thought.

RECENT RELIABLE REPORTS indicate that there is a real and almost alarming increase in the incidence of bronchogenic carcinoma. The Bureau of Chronic Diseases for the State of California has compiled figures showing an increase in the death rate for cancer of the lung in California from 5 per 100;000 in 1930 to 13.8 per 100,000 in 1950.[1] Cancer of the lung has now replaced gastric carcinoma as the first cause of death from cancer and recent figures indicate that in 1953 there were more deaths from this form of cancer in males than there were from tuberculosis.[1] In addition to the real increase in the frequency of this disease, attention has been focused on this form of cancer because of the controversy with regard to its relationship to smoking. These two factors have thrown the problem of lung cancer into probably undue prominence, perhaps not in professional literature, but certainly in magazines of general circulation.

In the late 1940's interest was developed along the line of extending the already current x-ray screening for tuberculosis to include possible detection of lung cancer. Spearheaded by the United States Public Health Service and in California by the Bureau of Chronic Diseases of the Department of Public Health, the concept of coupling the detection of lung tumor suspects with the procedure of screening for tuberculosis was accepted and placed on a practical footing. The first large x-ray screening in the State of California in which particular attention was paid to suspicion of chest tumor was the one completed in San Diego County in 1949. The results obtained there were so interesting and of such potential benefit that it was felt advisable to extend the experience gathered during that survey.

Accordingly, when the Los Angeles County Mass Chest X- Ray Survey was organized in 1950 primarily for the purpose of detecting tuberculosis, due cognizance was taken of the importance of follow-up of persons suspected of chest tumor who might be discovered in the same x-ray screening. With the approval of the Cancer Committee of the Los Angeles County Medical Association and with funds made available by the Bureau of Chronic Diseases of the California Department of Public Health, a Registry was organized into which were placed all possible chest tumor suspects detected in the Los Angeles County Survey to facilitate prompt treatment and to collect and report end results.

This survey was begun early in 1950 and was completed by the end of that year. During that period, a total of 1,867,201 minifilms of persons were taken. More than four years has elapsed since the inception of that mass screening, and more than three years since its completion. Because of the organization of the Chest Tumor Registry and the follow-up that has been continued on these cases, it is now possible to report three-year follow-up figures from this group.

Of the nearly 2,000,000 persons surveyed, 64,745 were asked to return for confirmatory roentgenograms, of whom 54,648 complied. The findings on the confirmatory roentgenograms are shown in Table 1. Of the 5,646 confirmatory roentgenograms designated as showing "Other Chest Disease," exactly 3,500 were deemed as possibly representing chest tumor and as such were placed in the Chest Tumor Registry. This gives an incidence rate for

TABLE 1.—*Findings on confirmatory roentgenograms*

Essentially negative	14,344
Evidence of old healed disease	9,216
Tuberculosis	18,785
Cardiovascular disease	6,657
"Other chest disease" (included neoplasm suspects)	5,646
Total confirmatory roentgenograms	54,648

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Supported by funds from the Bureau of Chronic Diseases, State Department of Public Health and the California Division of the American Cancer Society.

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TABLE 2.—*Occurrence of possible tumors detected on 14x17-inch chest roentgenograms in ten surveys*

City	County Included	State	Persons Examined	No. of Possible Tumors (14x17-in. films)	Rate per 1000 Persons Examined
Savannah	Chatham	Georgia	67,961	43	0.6
	Gaston and Wayne	North Carolina	84,599	58	0.7
Milwaukee		Wisconsin	176,469	37	0.2
Minneapolis		Minnesota	301,513	404	1.3
Washington		District of Columbia	439,927	373	0.8
Seattle	King	Washington	368,129	261	0.7
Tacoma		Washington	72,703	32	0.4
Spokane		Washington	106,526	67	0.6
Salt Lake Area		Utah	162,351	107	0.7
Total			1.780,178	1,382	0.8

tumor suspects of 1.9 per 1,000 examined in the survey. This rate is significantly higher than in other surveys (Table 2) and probably may be attributed to a high index of suspicion in the Los Angeles survey, for the actual incidence of lung cancer in Los Angeles County seems to be somewhat lower than the average for other urban population areas.[3]

There was rather pronounced delay on the part of both physician and patient in establishing a definite diagnosis in many of these cases. One year after the completion of the survey, one-fourth of the persons in whom tumor was suspect were still in the process of investigation and diagnosis was pending. It has been stated that cancer of the lung is the most readily detectable of the so-called inaccessible or internal cancers. While this is true, one other point in regard to lung cancer should be stressed. This is the fact that "symptomatic or clinical" cancer of the lung is seldom curable. By the time symptoms have developed sufficiently to make the patient aware that something is wrong, the disease has usually progressed to a stage at which it is, if not inoperable, certainly incurable. Cancer of the lung, if it is to be cured, must be treated surgically while it is still in the asymptomatic or preclinical phase. What can be accomplished when it is discovered in the "silent" or asymptomatic phase? Overholt[5] recently reported that, when prompt treatment followed discovery of cancer in the silent phase by x-ray survey, all lesions were resectable, that 75 per cent showed no evidence of lymphatic spread, and that all patients in this group were still living at the time of his report. In contrast, when the patient and/or the physician waited until there were symptoms, approximately 90 per cent of the lesions had extended beyond the lung and the possibility of cure was less than 10 per cent for this symptomatic group.

The final status of the investigation of the 3,500 persons in whom lung tumor was suspected is shown in Table 3. Most of the categories are self-explanatory. The 117 cases designated as "Other disease, treated," included a miscellaneous group of cases, mostly inflammatory lesions, tuberculomas, diaphragmatic hernias, etc. There were a total of 117 major operations, mostly curative in nature, with an operative mortality of only 3.4 per cent.

TABLE 3.—*Final status of chest tumor suspects*

Category	Number	Per Cent
Chest neoplasm ruled out	1,955	55.8
Refused treatment	67	1.9
Lost	172	4.9
Goiter	461	13.2
Other disease, treated	117	3.3
Lesion metastatic	96	2.7
Clinically benign, not treated	293	8.4
Confirmed chest neoplasm	339	9.7
Total	3,500	

TABLE 4.—*Classification of neoplasms in cases in which diagnosis was confirmed*

Malignant		260
Bronchogenic carcinoma	213	
Sarcoma and others	47	
Benign		79
Total confirmed neoplasms		339

TABLE 5.—*Operative summary for bronchogenic carcinoma with operative mortality (total bronchogenic carcinomas, 213; operability rate, 53 per cent)*

	Number of Cases	Operative Deaths	Operative Mortality Per Cent
Total bronchogenic carcinomas operated on	113	8	7.1
Exploratory thoracotomy only	28	1	3.6
Resection:			
Palliative	15	0	0
Curative:			
Lobectomy	20	2	10.0
Pneumonectomy	50	5	10.0

The group designated as "Tumor, clinically benign, not treated," included all cases in which there was a definite x-ray report of chest tumor, but in which operation was not done because the patient was asymptomatic, and in which the clinical course indicated the tumor was benign. This group in the present study corresponds clinically to a group in another series, reported upon by Overholt,[6] in which about 45 per cent of "silent" lesions, unverified

TABLE 6.—*Status of patients with registered bronchogenic carcinomas as of May 1, 1954*

	Untreated Cases	Exploratory Thoracotomy	Palliative Resection	Curative Resection	Total Cases
Total bronchogenic carcinomas	100	28	15	70	213
Died, intercurrent disease*	-----	----	----	3	3
Total determinate cases†	100	28	15	67	210
Failures:					
Died of carcinoma	99	27	14	33	173
Alive with carcinoma	1	0	1	3	5
Operative death	-----	1	0	7	8
Lost with disease	-----	----	----	----	-----
Successes:					
Alive, free of cancer	-----	----	----	24	24
3-year "cure rate," per cent	0.0	0.0	0.0	35.8	-----

*Not included in determining 3-year cure rate.

†Excludes those dying of intercurrent disease but free of recurrent carcinoma from calculation of end results.

before exploration, were found to be malignant when thoracotomy was done. It is assumed that additional cases of bronchogenic carcinoma will eventually be reported in this group.*

The classification of the neoplasms in cases in which diagnosis of tumor was confirmed is shown in Table 4. Of the 79 patients with benign tumors, 56 were operated upon with intent to cure and there was no operative mortality. The tumors grouped as "sarcoma and others" were mostly lymphomas of the mediastinum or other miscellaneous malignant processes involving the mediastinum.

Data on operation in cases of bronchogenic carcinoma are summarized in Table 5. Operation was done in 113 of the 213 cases of proven bronchogenic lesions, an operability rate of 53 per cent, which compares favorably with operability rates from specialized clinics. Resection was done in 85 cases or 75 per cent of those in which operation was carried out. This is an exceptionally high resection rate and probably reflects the fact that in a relatively large number of cases in the group the lesions were early and asymptomatic. Since 15 of these resections were definitely stated to have been palliative in intent, they were excluded in calculating the end results, which are summarized in Table 6. The three-year "cure rate" of 35.8 per cent for this group of curative operative cases is much higher than the cure rates similarly calculated in other reported series and must be at least partially due to the fact that the group contained a relatively high percentage of early asymptomatic cases discovered in the x-ray survey. It might be argued that by the time five years has elapsed, the conventional time selected for evaluation of end results, the "cure rate" will be substantially lower and in line with other series. This is probably not true. Bronchogenic carcinoma is an aggressive disease and runs a rather rapid and acute course. If there is to be recurrence, it is usually evident soon after operation. In other series, the three-year and the five-year survival rates are essentially identical.[2, 4] This leveling off of the recurrence rate after three years has been repeatedly commented upon.

Another factor pointing to the probability that the group included a large number of early lesions is the fact that 79.3 per cent of all bronchogenic lesions in the group were stated to have been discovered by the x-ray survey and hence were probably either asymptomatic or only recently had begun to cause symptoms. One other measure of the effectiveness of a survey method in picking up bronchogenic carcinoma is available. During the years 1950-1952 inclusive, a total of 1,903 persons died of bronchogenic carcinoma in Los Angeles County. These death lists have been checked against the alphabetized lists of those who had minifilms taken in the survey. In 1950, the year of the survey, only 27 persons who had minifilms reported "negative" for chest lesions died of bronchogenic carcinoma. Considering the fact that 213 confirmed bronchogenic lesions were discovered that year through the survey, and that probably in many of the 27 cases "missed" in the survey the roentgenographic evidence of the disease did not develop until after their minifilms had been taken, it is apparent that less than 10 per cent of persons even though harboring early bronchogenic carcinoma will be missed by such an x-ray survey.

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*Since compilation of these figures, six additional cases from this group have been reported to the Registry as being proven cases of bronchogenic carcinoma.

REFERENCES

1. Breslow, L.: Personal communication.

2. De Bakey, M. E.: The problem of carcinoma of the lung, Amer. Surg., 19:1-8, Jan. 1953.

3. Guiss, L. W.: Statistical analysis of chest tumor suspect registry, in preparation.

4. Moore, R. L.: Primary carcinoma of the lung, Cancer, 4:663-668, July 1951.

5. Overholt, R. H.: Cancer detected in surveys, Amer. Rev. Tuberc., 62:491-500, 1950.

6. Overholt, R. H., and Schmidt, I. C.: Silent phase of cancer of the lung, J.A.M.A., 141:817-820, Nov. 19, 1949.

A Program of Treatment for Retarded Children

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• *Mental retardation is a symptom of an underlying disease process. In California state hospitals for the retarded an accurate dynamic diagnosis is possible through utilizing the knowledge of neurology, psychiatry, pediatrics, psychology, social service, rehabilitation, education, the laboratory and trained psychiatric technicians. A program of "custody" is archaic and we are returning to the concept of training, treatment, and turnover. This kind of program is essential in order to avoid building new hospitals at the cost of millions of dollars every few years.*

Parent organizations for retarded children are expanding in ever increasing number. Special education programs in public schools, foster care homes and sheltered workshops may make admission to hospitals unnecessary and aid return of patients to the community.

Today as never before attention is focused on the problem of dealing with retarded children. Several magazines of wide circulation over the nation have carried articles recently with such challenging titles as "The Mentally Retarded Can Be Helped." Physicians as a professional group are dedicated to alleviating the physical and mental suffering of fellow human beings, and we have a feeling of satisfaction when a patient responds to electroconvulsive therapy or when we complete a difficult life-saving operation successfully. Today, we can have that same feeling of satisfaction with the mentally retarded, for we know with newer techniques of therapy many mentally retarded persons in hospitals can be helped to the degree that they may be returned to their homes and communities.

The problem of mental retardation is not of so great a scope as the problem of mental illness. Even so, it is estimated that 1 to 3 per cent of the entire population of the United States is mentally retarded. Pro-rated, this would be 120,000 in California.

Mental retardation is actually no more a disease than fever is a disease. Both are symptoms of an underlying process. The list of etiological factors in mental retardation is as long as the list of causes of fever. Broadly, mental retardation may be due to either organic or functional causes. Many physicians have seen the results of tests of the intellect of a regressed schizophrenic person. Few do better than achieve an intelligence quotient of the imbecile level. Only through careful observation, thorough history, physical and neurological studies and a battery of projective psychological examinations can the proper differential diagnosis be made. As to the organic causes of mental retardation, there are infections such as rubella, toxoplasmosis, syphilis and encephalitis. There are cerebral traumata of all types, brain neoplasms and cerebral vascular anomalies and diseases; toxins such as manganese and carbon monoxide; the effects of x-ray and erythroblastosis fetalis; and there are endocrine diseases such as cretinism. Less numerous, but important, are hereditary causes such as tuberous sclerosis, neurofibromatosis, the dysostoses, Tay-Sachs disease, gargoylism, phenylpyruvic oligophrenia, Wilson's disease and Schilder's diseases. Lastly, a common cause of mental retardation is mongolism, a condition which still must be considered as having unknown causes.

Fortunately, today we have the tools with which to diagnose accurately and better guides for prescribing individual treatment plans. We have physicians thoroughly trained in neurology, psychiatry, and pediatrics; psychologists who administer a battery of tests, rather than one Stanford-Binet; psychiatric social workers who probe for psychodynamic factors in the family and social history; laboratory workers with complement-fixation tests, biochemical studies and the electroencephalogram; and, finally, at the core, trained psychiatric technicians who make the observations that are so essential to an accurate dynamic diagnosis.

The goal is the development of each patient to the maximum of his ability. Only by determining each child's individual needs can this goal be achieved. Today, in the field of mental retardation the intelligence quotient of a patient is no longer looked upon as a measure of limits. There is ample case material to demonstrate that if a child receives intensive habit and development training, is taught proper feeding and elimination habits, learns to socialize and is accepted and receives attention instead of rejection, the "I.Q." may raise many points. This means that the potential of the child had not previously been

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The author is Superintendent and Medical Director, Porterville State Hospital.

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recognized. No psychological test can measure potential accurately enough to warrant a statement that a child is "hopeless."

In California, programs at state hospitals for mentally retarded persons are devoted to the rehabilitation of as many very severely retarded children as possible. Although the population of the hospitals consists of all age groups, the highest proportion is made up of children under 16 and the waiting lists for admission reflect this.

After going through a nonproductive period of treatment procedure known as "custody," in which patients were placed on stools, benches, chairs or camisoles, or were retained in the hospital because they were doing a job "indispensable" to the hospital, we are returning to the concept of treatment, training, development and discharge. Almost disappeared is the concept of controlling the problem through eugenics. It is known that the average severely mentally retarded patient, especially the mongoloid, is virtually sterile. The Kallikaks, Pineys, and Jukes were extreme exceptions to the rule, but unfortunately they became the prototypes in the minds of many.

PROGRESS BY PARENTS' GROUPS

Springing up throughout the country has been a development almost unparalleled for its rapid spread—the banding together of parents of retarded children. Starting in New York and New Jersey, the organization has spread rapidly, to become a dynamic, forceful, flexible and progressive group that believes that mentally retarded patients can be helped. In California the group is called the California Council for Retarded Children and there are dozens of groups located in nearly all the 59 counties in the state. New groups are constantly started and it is difficult to receive the most current information rapidly enough. The work is correlated with the Department of Mental Hygiene through Sonoma, Pacific and Porterville state hospitals.

Parent groups are a forceful voice to the state legislature. They are fighting for better care both in hospitals and in the communities, fighting for increased staff for hospitals, and struggling for special education programs within the community public schools, known as Point 1 and Point 2 programs. These names come from the Education Code Sections 9801.1 and 9801.2. Point 1 is a mandate by statute that each county provide special classes for mildly retarded youngsters in the public schools. Point 2 is permissive. It provides by statute that special classes may be provided for moderately retarded children. The parent groups are hoping to make this program mandatory also.

Parent groups and special education classes in public schools have everything to do with the pediatric treatment program for mentally retarded children. Unless the children will be accepted back into the community after receiving intensive habit and developmental training, the program will tend to falter.

The hospitals for mentally retarded persons have many children much more severely retarded than those that the community public schools will accept. For convenience they can be called Point 3 children. When the emotional problems are treated, when the physical health is made top-notch, when the children are given opportunity to socialize and develop real habit training, these children become eligible for Point 2, if not Point 1 programs in the community. The older patients can be trained to become partly self-sufficient, and if sheltered workshops are available they can become economically useful.

When it is not possible for the parents or relatives to take back a trained child, foster-care homes are used. It is significant that more than half of the patients in foster care at one hospital are at the imbecile level or below, yet they do adjust outside the hospital. Often in foster homes improvement continues in the child, above and beyond what the hospital can do, since no hospital can duplicate the environment of the home. The solution to overcrowding and the way to long range reduction in cost by helping to eliminate the need for new hospitals every few years, is to treat and train patients to the point at which they can be returned to their own homes or placed in foster-care homes.

At Porterville State Hospital the staff has agreed on several basic policies which, it is felt, will better accomplish the basic goal—the development of a patient's capacities to the maximum based on his individual needs.

First, we believe strongly in the power of words. We decry the use of such terms as "low grade" "charge attendant" and "I.Q." to cite a few. We have seen these terms used much as "nut house" once was used for our splendid modern hospitals for the mentally ill. We call our nursing employees by the title they have earned, Psychiatric Technician. We have discarded ward cards at the Porterville hospital because our experience indicated the technician tended to pick out the I.Q. from the card and then everything that followed in a treatment plan was based on the I.Q. The intelligence quotient has its uses, but we also know that classification based on it is fraught with inaccuracy.

Second, we believe that the treatment program must be for the patient, not the hospital. If a vital service of a hospital must be discontinued when the key "working" patients are placed in foster homes, there is strong reason to believe the treatment program is based on the needs of the hospital rather than of the patient. We feel paid civil service employees should perform all the services necessary to run a hospital.

We shall never have enough employees so long as patients carry some of the work-load, for the legislature sees that the work is being done and questions the need for more paid employees.

Patients cannot be expected to maintain the sanitary conditions expected of an employee with normal mentality. The public health aspect is reason alone to condemn work by patients in such important areas as laundry, food handling and care of toilet facilities.

Third, we believe employees should do the jobs for which they are trained. For our technicians, this is the nursing care and welfare of the patients. We do not wish our employees to work out of their civil service classification. This may work a hardship in some hospital sections but we feel that a civil service assistant or helper, and not a trained psychiatric technician, should aid these sections.

Fourth, we believe in the team approach, already used with much success in many state hospitals. We feel the center of the team must be the ward technician. The advisors or counselors are the psychologist, the psychiatric social worker, the school teacher and the rehabilitation therapist. The captain and leader of the team is the ward physician. He is the responsible supervisor. The goal of the team is to help the patient. The ward technician is encouraged to develop the parental role. We have both male and female employees on the same ward so as to give a proper parental balance. Many of our wards are mixed so that little boys and girls learn how to live together socially. The team formulates the treatment program for each patient individually. The treatment program is called habit and developmental training. All patients receive regular daily training in brushing teeth, in eating, in making beds and in bowel and bladder control. Added to this is a recreational program from simple tasks and amusements for the severely retarded to more organized recreation for the moderately retarded, such as ball games and occupational therapy. Our school program has two parts, one carried on in the school proper and oriented to the Point 2 level and the other held on the wards and oriented to the Point 3 level. We are developing our own techniques as we go along in this controversial Point 3 program, which is for children formerly called untrainable.

Through our program we have seen children move from bottle-feeding to eating solids in one week. In difficult cases of bowel training the use of glycerin suppositories is helpful. The big sister and big brother concept works marvels in enhancing the training program.

Our program is devoted to the development of our employees as well as our patients. We encourage well trained employees who are sympathetic yet firm, ingenious and patient, and who will make commonsense leaders.

How can we further improve the treatment program for the mentally retarded children? May I recommend first a spirit of optimism, for without it, why should we remain in the field of mental disease? I would recommend a revision of our archaic statutes and the use of modern terms and modern concepts. I would recommend the team approach. Diagnoses can be improved through a consensually validated approach by the team and a workable treatment plan devised. I would recommend intense effort on the part of the hospital to develop community acceptance of the program carried on at the hospital. By these means, perhaps we shall be able to state that our program is then oriented to developing our patients to the maximum of their ability, a goal few of the human race ever attains.

P. O. Box 2000, Porterville.

Discussion by S. F. CASALAINA, M.D.*

As Dr. Shelton has pointed out, many factors enter into shaping a pediatric treatment program. Please permit me to emphasize a few more of these factors. The present trend in the Department of Mental Hygiene (of California) is to return to the community as many patients as possible who no longer need hospitalization. At the Pacific State Hospital as many as 300 patients are returned yearly to the community. (This does not include the unauthorized absences that occur from time to time.) As a result of this now established policy, the statistical branch of the Department of Mental Hygiene has recently informed us that the average intelligence quotient of our patient population has decreased from around 36 to 33. I am also certain that the average age of our patients will decrease sharply when a thousand more beds are added at our hospital. This will mean that over 60 per cent of our population will be under 16 years of age and approximately 70 per cent will fall either in the imbecile or idiot groups. This brings me now to my main point.

In a psychiatric patient-centered hospital such as our state hospitals for the mentally retarded, there certainly appears to be a definite need for a specialist known as a pediatrician. By definition a pediatrician is a physician who cares for and treats children. In a recent discussion with our consulting pediatrician, I asked him casually, "When is a child no longer a child?" And, in all earnestness, he replied that in the ordinary course of events, in pediatrics as it is generally practiced, the chronological age lies somewhere around 16. However, in a setting such as our hospitals for the mentally retarded, we refer to patients who are 60 years of age as children, fully cognizant of their chronological age but also cognizant of the facts that emotionally and intellectually many of these patients are in effect children. Actually we feel that over 50 per cent of our patient population will fall within the group that would be treated by a pediatrician.

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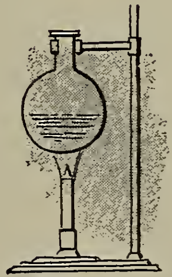
Recently I overheard a discussion centered around the subject of what is a pediatrician. The pediatrician was said to be the child's own personal doctor. The pediatrician was compared with the general practitioner, who in days gone by was the adult's own personal physician. It was further proposed that the pediatrician should be able to take care of all the needs of a child. This would include surgical, neurological and orthopedic conditions, just to mention a few. He would not refer his little patient to an allergist, or to a cardiologist, or to an internist, but would carry out the necessary treatment himself. By no means does this imply that other physicians would not be called into consultation regarding some particularly perplexing problem, but it does imply that the pediatrician would remain the child's own personal physician. Of course, such a pediatrician would also be psychiatrically oriented; and this, in our state hospitals, would be helpful to say the least.

I would like to touch upon some particularly difficult problems that present themselves in our treatment program. Time and again I have heard our consultants say that our patients do not react to disease as do their other patients in the community. Not only are the consultants (and this includes our hospital medical staff) handicapped by the fact that the patient cannot give any information or history concerning the illness, but entirely new diagnostic techniques have to be developed in order to come to a decision as to when or whether to operate. A temperature of 101° F. might easily denote hyperpyrexia in one person whose usual daily temperature is 94° F.; and many patients survive a temperature over 108° F., which under "normal" circumstances would cause death. Presumably because two-thirds of our patients fall below a mental age of five years, we are constantly plagued with numerous skin rashes and upper respiratory conditions. Many of these upper respiratory conditions would rapidly terminate as bronchopneumonia were it not for the rigorous medical treatment the patients now receive. Many texts still carry the legend that the life expectancy of a mongoloid child is 14 to 17 years. A regimen of good competent nursing care, vigorous and adequate treatment plus the fact that some of us do not believe everything we read has demonstrated that the life expectancy can be longer than that.

More and more it is being demonstrated that fecal impaction is not a textbook curiosity, but actually in our setting may be as prevalent as the common cold is in other communities. Both Sonoma and Pacific State hospitals have gone through a trying period with infectious hepatitis. The exanthemata run their seasonal course year in and year out and are not as innocuous as one would be led to believe. Eleven deaths occurred in one month (February) several years ago during a particularly severe measles epidemic. As of this time, we have not had any experience with the problems of infancy, from birth to one year of age. However, the time is rapidly approaching when we will have about 60 bassinets for infants in whom the diagnosis of mental deficiency can be made at birth. These will bring many treatment problems that will have to be met, which makes us lean more and more toward the idea that in our particular table of organization the "physician and surgeon III" position should be filled if at all possible by a pediatrician—one having the training previously described.



Enuresis

A Critical Review of the Symptom

JOSEPH D. TEICHER, M.D., Los Angeles

• *Enuresis is a symptom for which many kinds of treatments ranging the gamut of unscientific medical practices have been tried. To establish bladder control at the appropriate age is important because it means self-control, one of the foundations of a healthy personality. In most children with enuresis there has been no convincing demonstration of organic pathology of the urinary system. The cure of enuresis lies in the correction of psychological causal factors such as sibling jealousy, suppressed hostile feelings and sex difficulties. Routine urologic investigation of enuresis is unwarranted and unkind, unless there is a valid medical indication. Any therapeutic program for enuresis should center upon the child and not his bladder.*

THERE ARE FEW PROBLEMS in pediatric practice, or in psychiatric practice for that matter, that are more troublesome to physician, parent and patient than enuresis. Enuresis is usually defined as the involuntary passage of urine by persons more than three years old. This does not mean that a child is called enuretic at the age of three and a day; the outer limits are more elastic. The problem is one that seems to impel parents and physician to "do something," and yet the physician ought not be stampeded into doing "something, anything to get rid of this."

Data from the Johns Hopkins Clinic indicated that some 26 per cent of the complaints at the psychiatric service of the clinic were concerned with bedwetting, and that in 78 per cent of the cases of enuresis, the condition was life long. Fifty per cent of patients with enuresis wet the bed daily. The peak incidence of the complaint was between 8 and 11 years, which probably means that persistence of enuresis to that age led parents to seek help rather than that it is truly more frequent in that period. At Bellevue Hospital, one-fourth of enuretic patients were over seven years of age.

Bedwetting is an annoying symptom, but what if it is simply ignored? In the great majority of cases it ceases in puberty. Why not, then, just let it go instead of going through strenuous procedures? Why, in taking routine psychiatric histories of adults, is inquiry made about the presence or absence of enuresis in childhood? Why do psychiatrists stress the importance of enuresis as a clue to later personality problems?

The way children control their bodies establishes the pattern of their general self-control. A child unable to control his body, usually is unable to control feelings. He cannot wait; every whim has to be fulfilled immediately. He becomes furious and helpless when crossed, bursting out in temper tantrums which overwhelm him in the way, as one writer put it, "the stream of urine overwhelms the body."

To establish bladder control is important because it means self-control; to establish self-control is one of the foundations of education—to enable the child to be consistent and insistent in his efforts to reach certain goals, even if getting there takes labor, time and patience. Some of the bedwetting children steal, one of the reasons being that they must have what they want immediately; they cannot ask their parents' permission, or wait until the next holiday comes around when presents are in order.

When they get into school many are often poor students, however intelligent they may be, because they cannot apply themselves, cannot concentrate, cannot follow orders. They are unable to control their impatience in learning, as they are unable to wait until they get to the bathroom at night. They want to succeed immediately or they give up. Some of these children frequently get into trouble sexually because in this matter, too, they lack control and have to follow every urge immediately. The establishment of bladder control becomes one of the crossroads of education and character foundation.

The foregoing does not hold true of all enuretic children. Some children are difficult to manage, others are completely ruled and dominated by their mothers, are timid and lacking of initiative. The conviction of a child that he is unable to control his body gives him a feeling of being unable to achieve anything and he feels discouraged in trying anything new. Frequently the timid sort of bedwetter is conspicuous by his dirty, neglected appearance, and his whining crybaby attitudes. He gets beaten up by

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other children and does not know how to defend himself. It is interesting to see how the appearance of such a child improves when he is able to master his bladder even for one night. (No wonder physicians and parents are easily led to "try anything.")

The effects of bedwetting on the general well-being and on character formation are such that it is vastly important to help the child overcome this difficulty, to take responsibility for his own micturition. Yet even this great importance is not reason enough to "try anything" to stamp out the symptom.

In the vast majority of children with enuresis there has been no convincing demonstration of organic disease of the urinary system as the cause. Incidentally, children with bladder and urethral injuries have been helped to achieve bladder control as long as the bladder sphincter was intact. Studies have been done to determine the role of the specific gravity of the urine, and in many children the specific gravity is lower during the night. The fact that many enuretic children are highly sensitive to cold, damp weather or excitement does not establish a causal relation. Some studies have shown a relatively large proportion of enuretic children have abnormal electroencephalograms. But coincidence does not always spell causal relationship.

Spina bifida, local irritation, phimosis, balanitis, urethrotrigonitis, congenital urethral obstructions of varying degrees, and adenoids have been considered causal to some degree or other but, except for a case here or there, the evidence is unconvincing. The author has observed cases in which boys of six or seven years of age, who had achieved sphincter control at an early age, became enuretic after circumcision. Circumcision is no cure for enuresis and there is really never any valid reason to recommend it for enuresis. Depth of sleep has been blamed but many bedwetters are light, restless sleepers. Incidentally, electroencephalographic studies of the sleep habits of bedwetters show that their sleep level is lightest at the moment of micturition. Epilepsy and hysteria have been blamed and it is possible that enuresis may be one symptom in the complex of symptoms composing epilepsy or hysteria. Inherent inferiority of the urinary system, and enuresis as a symptom of choice to realize a variety of goals, has been proposed as an explanation. But what is "inherent inferiority of the urinary system," and what are tenable criteria of "inferiority"? They do not bear objective scrutiny.

The foregoing may occasionally play a role in a case here or there but are not important as causal factors. The influence of training and parental attitudes is a much more frequent important factor. Maternal over-protection, maintenance of the infantile state of the child long after it is appropriate, *is* an important factor. An extreme example is the case of a seven-year-old girl who was adoringly carried about in the arms of her parents on every possible occasion. She never had to do anything she did not want to. Enuresis and infantile speech were among many symptoms of general immaturity.

A syndrome has been described suggesting that the condition is the result of a developmental abnormality characterized by the familial nature of the condition, a "sensitive bladder" throughout life, and a sense of urgency. It is more likely that this syndrome fosters the folklore notion of a "weak bladder" or "weak kidney," and that it is "hereditary" is more likely the persistence of the family tradition of enuresis.

Lack of opportunity for adequate training is an accessory factor in rural homes or in crowded urban areas where toilet facilities are outdoors or in the basement. Inconvenience of opportunity to void leads to the use of the bed for that purpose. At a recruits camp while in the naval service, the author had occasion to see many enuretic men from backgrounds where there was lack of opportunity for toilet training and a family tradition of enuresis. Enuresis often ceased with marriage and its demands.

Psychiatrists, by and large, are not inclined to regard enuresis as a "bad" habit but rather as a complex symptom in most instances. The psychogenesis of enuresis is well recognized by them, and the importance of various emotional difficulties in the production of this symptom has been rather well studied. Rarely is it the only symptom in the patient and there are usually behavior problems and unhealthy personality features associated with it. The behavior problems include eating problems, temper tantrums and stealing. Unhealthy personality features range from whining irritability to aggressive behavior to timidity and seclusiveness.

Enuresis after an illness or an operation or during separation for any reason from the parents, or upon arrival of a new baby in the family, is well known. Nagging, punitive attitudes of a parent, fear of harm from persons of the opposite sex, sexual fantasies and repressed aggressive impulses are other dynamic factors. The dynamic factors operating in a particular case can be determined only by a careful history and a psychological evaluation of the child.

While most children are dry at night by the age of three years, the tendency today is to allow for individual differences and not label a child enuretic until after the age of four years if a girl and five years if a boy. Bedwetting persisting beyond these age limits requires careful evaluation and investigation. No intelligent child likes to be a bedwetter or to endure the psychological consequences.

Parents certainly do not like the bother of a wet child and damp bed. They react with annoyance, irritation, impatience, anger more often than not—and it *is* hard to maintain an attitude of either calm ignoring or calm disappointment if the wetting continues day after day. Yet parents' attitudes are very important because the secondary symptoms produced in the child by punishment, scolding or other measures—symptoms like embarrassment, lack of self-confidence, feelings of guilt and inadequacy, feeling different or physically tainted, sensitiveness, unhappiness, feeling defeated—may be present in varying degrees and may be as difficult to deal with as the primary symptom.

It *is* a messy business and when pressures at home are great enough, they are usually dumped into the lap of the pediatrician to "do something." Parents are ingenious in their efforts to "do something." What they do depends upon their temperament. Interestingly, they resort largely to punitive measures. Making a child wash fouled linen, rubbing soiled linen in the child's face, making a boy wear girls' clothes, threats of operations or of doctors doing dire things, forcing the wearing of diapers, name calling—these are some of the "corrective" methods attempted.

The medical profession has often forgotten that the child and not his bladder stands in the center of any therapeutic program for enuresis. Also, in the vigorous attack upon the symptom, the medical profession was violating one of its basic teachings—that one attacks the causes and not the symptom alone. And, simply stated, since the majority of enuresis cases originate in psychologic problems, the attack might be directed toward the resolution of these problems—and by psychological methods.

In the 1930's the mechanical and surgical procedures devised were many—tying of the prepuce at bedtime, closure of the orifice with collodium at night, clamping the penis, presacral neurectomy, circumcision and tonsillectomy, to mention a few. One still sees circumcision recommended as a cure for enuresis.

Various drugs and endocrine preparations have been used and are still being used—urotropine, calcium salts, quinine, camphor, trasentin, benzedrine, desiccated thyroid, pituitary extract and testosterone. Belladonna is still a widely recommended drug and its physiologic action well known to physicians. Testosterone is still widely used to improve bladder muscle tonus. Benzedrine is used to allay the overactivity or overanxiety of the child. Note that with most measures the attack is on the bladder.

Dubious methods, euphemistically labeled psychological, like rudeness, scolding, hypnotism or giving bitter-tasting medicines were also tried. Dietary restrictions play a role too. Limitation of fluids and ample salt late in the day were popular and are used today. Some physicians recommend 5 gm. of salt or a very salty sandwich before retiring in order to bind fluid, so that less will be in the bladder.

Despite occasional success, children continued to wet. When there is such a diversity of therapeutic measures, surely there must be suspicion that we have not arrived at an appropriate therapeutic measure. And when successes come from such a diversity of methods, perhaps the methods are not so important. Perhaps, in the last analysis, the procedure meant something to the participating children in the direction of alleviating anxieties, hopelessness, and guilt about a "bad" habit—plus freedom from parental pressures and relief in a doctor's taking over the responsibility. Perhaps the interest the physician showed in the children was a paramount factor.

One may speculate as to why the vigorousness of the attack on enuresis, particularly as to the punitive, cruel measures so commonly employed. The same attitude is noticed in dealing with thumbsucking, soiling and masturbation problems. Perhaps such symptoms arouse anxiety disturbances in the adults dealing with them, who then react in a harsh punitive way to suppress these disturbances by suppressing the stimulators. Enuresis is labeled a "bad" habit, with the emphasis on "bad," and we do tend to punish "bad" things.

Certainly, if there is any medical indication, urologic procedures are necessary. But routine use of urological procedures is not warranted. To hear that "vigorous cystoscopy" or "urethral dilatation" will cure the "habit" is a little disheartening, for they are no more than the barbaric practices of the past dressed up in the guise of modern medicine. True, enuresis may stop after such a procedure is carried out; but enuresis is a symptom, often a complex one, and suppression of symptoms is not the goal of scientific medical practice. Nor is suppression of a symptom ever to be confused with the eradication of a condition producing it.

Today, a great deal is heard about various "conditioning" apparatuses and the great successes achieved with them. It is true that in many instances the symptom, enuresis, ceases. It is true that children, defeated and hopeless with their bedwetting, are buoyed up by their success. But it is also true that "conditioning" of this kind is primarily a symptom remover, and that, as with the more primitive measures used, factors more important in the success than the method may be the interest shown in the child, the wanting to help him, to remove him from his shameful status, to relieve his anxieties, guilt and hopelessness. A question not satisfactorily answered is: What happens when a symptom is suppressed by these methods? Long-range careful studies of children exposed to the conditioning apparatus are necessary, for it is probable that unless the psychological climate in which the unhealthy symptoms are produced is resolved, suppression of a symptom merely produces another in some other area or system. The author has observed a number of children in whom conditioning was not successful, and also successfully conditioned children with new symptoms.

A recent study at University of California, Los Angeles, the subject of a doctoral thesis by M. Kahane, testing the efficacy of conditioning as a treatment for nocturnal enuresis was most illuminating. Although all patients in the experimental group using the conditioning apparatus responded successfully for at least one month after treatment, symptom remission was transitory. Thirteen of the 21 patients had relapse at intervals of one to seven months following treatment. Of the 22 untreated enuretic children in the control group, ten had spontaneous remission of symptoms within a month following contact with the examiner. In this group remission occurred more often in older children. In both experimental and control groups, behavioral change followed symptom remission. In the conditioning group, improved adjustment did not necessarily follow symptom remission. In the control group, however, all patients who had spontaneous remission of symptoms also manifested improved adjustment. In studies made by others of the use of conditioning apparatus, success was reported in a high proportion of cases, but controls were lacking.

Accessory measures, like limitations of fluids, waking the child, keeping a chart and rewarding the child for dryness have their value in certain instances but they are only accessory. Drugs and manipulations ought to be avoided. As Kanner stated, the aim is "strengthening the child's self-reliance in an atmosphere of freedom from punitive and otherwise hostile practices, from pseudomedical notions, and from anxieties superimposed on the enuresis."

The therapeutic approach to the problem of enuresis, granted no organic disease—fortunately rare—is as follows:

1. Removal of punishment and disparagement by all persons dealing with the child, especially the parents. Cruel, punitive attitudes on the part of parents must vigorously be discouraged, and the nature of enuresis explained.

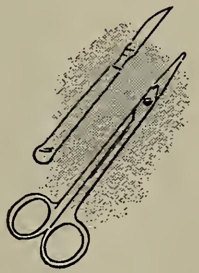
2. Manipulations and drugs are to be avoided.

3. The physician should help the child to view enuresis as a symptom not as "badness," relieving his guilt. The physician becomes the child's ally, and guides the parents. (Cessation of drugs and of manipulations provides the child the safest guarantee that he is not physically ill.)

In Kanner's experience, the pediatrician helping parents with their attitudes, and both helping and encouraging the child who is considered an individual and not merely as a bladder, is likely to be successful. The author's experience and inclination has been to encourage pediatricians to deal with enuresis in most cases, and not automatically refer the patient to a psychiatric clinic or to a psychiatrist, although they may need psychiatric counsel to guide them or tide them over. Of course, there are very complex cases in which referral to a psychiatrist is indicated.

If the pediatrician tries to understand the child and his needs and deals with him as an individual, then treatment becomes facile and rational.

Child Guidance Clinic of Los Angeles.
1408 North Vermont Avenue, Los Angeles 27.



Mass Surveys and Selective Case-Finding

Two Tools for Tuberculosis Control

ERWIN P. BRAUNER, *M.D.*, San Francisco

• *The productivity and effectiveness of the traditional mass x-ray survey method of tuberculosis case-finding were compared with those of a selective use of mobile miniature x-ray equipment. In Tulare County, California, two mobile miniature x-ray units were operated independently of each other. One unit conducted community-wide, pre-planned surveys, while the other unit operated a regular weekly schedule of mobile screening clinics in four cities in the county.*

The main features of the selective screening program were: (1) Extensive use of the physician referral method; (2) utilization of the unit for contact investigation; (3) interpretation of the minifilm and mailing of film and report to the family physician one day after the screening clinic.

Results: Mass survey found one case of tuberculosis per 2,200 minifilms taken; cost per case found, $475. Selective screening program found one case per 292 minifilms taken; cost per case found, $111. Of all cases of tuberculosis reported in 1953, 8 per cent were found by mass survey and 18 per cent by selective screening.

THE PERIOD of diminishing returns of traditional case-finding methods is here. New methods of selective case-finding are needed to discover unknown cases of tuberculosis and eventually to eliminate the disease as a public health problem. One such method of selective case finding, which was introduced in Tulare County in 1953, is presented herewith. It is thought that it may provide an additional valuable tool for the tuberculosis control program of local health jurisdictions.

Tulare County, with population of 145,000, covers an area of nearly 5,000 square miles. It is almost entirely rural; 70 per cent of the residents live in the nonincorporated parts of the county.

Distances are considerable. From the county seat, Visalia, it is 20 miles to Dinuba in the north, 32 miles to Earlimart in the south and 31 miles to Porterville in the east.

The Tulare County Health Department, in addition to its Visalia headquarters and primary center, maintains branch offices in Dinuba, Tulare and Porterville, and assigns nurses and sanitarians to work out of these offices. Prenatal clinics, child health conferences, immunization clinics and venereal disease clinics are conducted in these offices, bringing services of the health department within the reach of a majority of the county's population.

Tuberculosis Control Program Until 1952

Until 1952, the tuberculosis case-finding program was conducted with a mobile 70 mm. chest x-ray unit carrying out traditional mass surveys. A weekly chest clinic was operated at the Visalia office for the initial follow-up examination of persons with "suspicious" mass survey x-ray films and for investigations of persons in contact with those suspected of having tuberculosis. An outpatient clinic at the Tulare-Kings Counties Tuberculosis Hospital in Springville was the diagnostic facility and the case supervision center. Springville is located in the foothills of the Sierra Nevadas, 47 miles from Visalia, and it is not served by a public transportation facility.

The New Plan

In the fall of 1952, the Tulare County Health Department obtained the use of a second mobile 70 mm. chest x-ray unit, to be operated by the department until the Tulare County General Hospital would be ready to operate an admission x-ray service in its new clinic building. The temporary availability of two mobile x-ray units made it possible during 1953 to plan to conduct two parallel case-finding programs in order to attempt a comparison of the productive value of the mass x-ray survey with that of a selective case-finding program.

The following was the plan for the operation of the two programs: One unit (Unit I) was to be used to conduct mass surveys in communities throughout the county, surveys of high school and college students, of farm labor camp inmates, and of visitors to county and district fairs. This program was the continuation of one which had been developed over a period of five years and which had been well accepted by the community. The other unit (Unit II) was to be placed on a regular schedule

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The author was formerly health officer of Tulare County.

Submitted August 13, 1954.

TABLE 1.—*Attendance at scheduled mobile x-ray clinics (Tulare County, 1953)*

Month	Total Attendance	Physician Referrals No.	Physician Referrals Per Cent	Self Referrals	Other Referrals (Schools, Public Health Nurse, etc.)
January	297	22	7.4	231	44
February	315	37	11.7	206	72
March	676	94	13.9	365	217
April	691	95	13.7	382	214
May	434	54	12.4	174	206
June	451	79	17.5	272	100
July	503	102	23.0	310	91
August	435	81	18.6	321	33
September	586	113	19.3	453	20
October	521	87	16.7	430	4
November	514	102	19.8	400	12
December	702	105	14.4	457	140
Total	6,125	971	15.8	4,001	1,153

visiting four cities in the county—Visalia, Tulare, Dinuba, and Porterville—on four successive days each week.

The Mass Survey Program

Preparations for Unit I activities consisted of carrying out community health surveys by sanitarians and public health nurses to stimulate local interest in community health problems, recruiting community organizations to sponsor the program, giving talks to service clubs, and getting newspaper, radio and television publicity.

Interpretations of the 70 mm. films taken by Unit I were obtained by double reading of each miniature film by the staff of the Tulare-Kings Counties Tuberculosis Hospital. Reports were sent to the patients. Suspicious films were rechecked with 14x17 films in the weekly chest clinic in the health department in Visalia. The films were developed immediately, were reviewed by a chest specialist, and the patient was advised of the tentative impression. Further steps were then decided upon after consultation with the family physician.

The Scheduled Mobile Clinic Program

Before it was put into use, this plan was presented to the Public Health Committee of the Tulare County Medical Society and was approved by it. Later, the County Medical Society also approved of it upon recommendation by its Public Health Committee.

The schedule of weekly mobile x-ray clinics operated by Unit II, was publicized through the health department's regular news outlets and was made known especially to all physicians, public health nurses and school nurses. Referrals of patients by physicians, of persons with known exposure to tuberculosis, and of persons with symptoms of chest disease coming to the attention of nurses were particularly solicited. Self-referrals of persons over 15 years of age were accepted, but no effort was made to encourage them on a large scale.

Two films were taken of each patient. They were developed daily and were read the following day by a qualified physician. A form letter of information with advice regarding follow-up, if indicated, was mailed to the patient on the same day; at the same time, one of the two films taken and the interpretation of it were sent to the family doctor. In the case of patients referred by physicians no letter was sent to the patient. The follow-up was carried out by the family physician or, if none was available to the patient, in the weekly chest clinic in Visalia.

Utilization of Unit II by Private Physicians

Acceptance by the medical profession of the selective case-finding program and of the new use of miniature chest x-ray equipment, was slow at first. However, there was a gradual increase in the number of patients referred to the mobile clinics, and the total volume of persons examined also grew (Table 1).

Comparative Statistical Evaluation (Table 2)

During the year, Unit I took 18,414 miniature chest x-ray films. Nine new cases of active tuberculosis were found among them, representing 8 per cent of all new cases found in Tulare County in 1953. The ratio was 2,200 x-ray films taken for each active case found.

Unit II took 6,125 miniature chest x-ray films, and 21 new cases of active pulmonary tuberculosis (18 per cent of all new cases found during the year) were discovered thereby. The ratio was 292 x-ray films for each active case found.

Effect on Tuberculosis Control Program in Tulare County

The introduction of this new method of case-finding in the county stimulated awareness of the need for early diagnosis of tuberculosis. A lowered threshold of suspicion among the county's physicians brought about a significant increase in the number of cases of tuberculosis reported in the minimal and moderately advanced stages, while the number of far advanced cases declined. Only 32.4 per cent of all cases of pulmonary tuberculosis were

TABLE 2.—*Number of cases of tuberculosis reported; by stage of disease, method of case-finding, and percentage of cases (approximately) in each category (Tulare County, 1951-1953)*

	1951						1952					
	Method						Method				Total	
	70 mm.		Other		Total		70 mm.		Other			Per
Stage of Disease	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Cent
Minimal	5	26	15	14	20	16	2	29	20	25	22	25
Moderately advanced	7	37	34	32	41	33	3	42	22	27	25	28
Far advanced	7	37	56	54	63	51	2	29	39	48	41	47
Total pulmonary tuberculosis	19	100	105	100	124	100	7	100	81	100	88	100
Other tuberculosis	....		11		11		....		11		11	
Total tuberculosis	19		116		135		7		92		99	

	1953									
	Method								Total	
	Unit I		Unit II		Total 70 mm.		Other			Per
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Cent
Minimal	2	25	6	30	8	31	25	32	33	32
Moderately advanced	4	50	9	45	13	42	25	32	38	36
Far advanced	2	25	5	25	7	27	27	36	34	32
Total pulmonary tuberculosis	8	100	20	100	28	100	77	100	105	100
Other tuberculosis	1		1		2		9		11	
Total tuberculosis	9		21		30		86		116	

Total number films taken (1953):	
Unit I	18,414
Unit II	6,125
Total	24,539

Total cases found (1953):	
Unit I	9
Unit II	21
Total	30

Number of films taken per case found:	
Unit I	2,200
Unit II	292
Total average	817

first reported in the far advanced stage, while in 1952, 47 per cent, and in 1951, 51 per cent had been in that category.

Cost of Program

The cost of the entire case-finding program, including the operation of the weekly follow-up clinic in Visalia, was approximately $20,000.

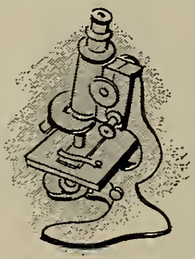
The cost per case found was:

Mass survey program	$1,111.00
Mobile clinic program	476.00
Both programs combined	666.00

COMMENT

It is believed that selective case-finding, as done by the mobile chest x-ray clinic method introduced in Tulare County in 1953, can contribute materially to the discovery of cases of tuberculosis in an early stage. The method was of value in obtaining better correlation between private physicians and the health department in the control of tuberculosis. An additional dividend in Tulare County was the good working relationship between the health department and the private medical profession, to the development of which this program contributed materially.

101 Grove Street, San Francisco 2.



Aphthous Stomatitis

The Failure of Local Hydrocortisone Therapy to Affect Healing Time

ARTHUR U. RIVIN, *M.D.*, and
RICHARD THOMAS BARTON, *M.D.*, Los Angeles

• *Many forms of therapy have been tried for aphthous stomatitis in the past without success. The effect of hydrocortisone was tested because of its anti-inflammatory and antiallergic action. Little benefit was derived from such therapy in a series of 26 patients as far as healing time was concerned but many were noticeably relieved of pain.*

JUST AS IN OTHER DISEASES of varying or obscure cause, the treatment of aphthous ulcer has been empiric and sometimes haphazard. Among the medicaments proposed or currently in use are antibiotic lozenges, silver nitrate or other chemical cautery, antihistamine, vitamins and smallpox vaccination. Claims for varying degrees of success have been made, but the consensus seems to be that the healing time is not altered by treatment.

Because of the anti-inflammatory and antiallergic effects of hydrocortisone, it was decided to conduct a controlled study on the effects of local application of this material.

MATERIALS AND METHODS

Subjects were students who presented themselves at the Student Health Service, University of California, Los Angeles. A placebo ointment of petroleum jelly resembling Cortef® brand hydrocortisone (2.5 per cent) was used. Hydrocortisone was used in alternate cases. The two ointments were labeled A and B and the identity of each was unknown to the investigating physician.

After the diagnosis had been established, the student was instructed in the proper use of the ointment. A small amount of the material was placed at the center of a one and a half inch square pad of gauze and applied directly to the lesion. The part of the pad on which there was no ointment served to absorb saliva and prevent washing away of the ointment. The patient was instructed to apply the material in this fashion three times a day, to keep the pad in place a half hour, and to refrain from eating or drinking for a half hour after it was removed. The lesions were inspected by a physician every day or every other day.

Clinical data obtained included information as to age, sex, associated diseases, history of recurrent oral ulcers, allergic sensitivity, dietary indiscretions, dental disease, emotional factors and recent colds. The location, severity of the lesion, duration before treatment, duration after treatment, and subjective and objective evidence of improvement were recorded.

Twenty-six patients, 17 men and 9 women, were treated in a period of six months. Fourteen received hydrocortisone ointment and twelve were treated with placebos. Although the study was chiefly concerned with the treatment trial, the following incidental observations were of interest: There was no distinct relationship between the onset of ulcers in the mouth and the presence of any other disease or special dietary history. There was no apparent emotional relationship. Half of the patients had been subject to recurring oral ulcers. In three-fourths of the cases the lesions were located inside the lower lip near the alveolar gutter.

The average duration in days from the time of application of the medication to the time of healing was four and one-half in the hydrocortisone treated cases, and four and three-quarters in the placebo treated cases. The average duration in days from the time of application to the time of subjective relief from pain was two in the hydrocortisone treated and three in the placebo group. Average time in days from onset of the lesion to healing was nine and one-half in the hydrocortisone treated and ten in the placebo treated. Five of the hydrocortisone treated patients volunteered the information that they had immediate relief of pain after the first application. None of those who received the placebo spoke of relief of pain. No untoward effects were noted from the use of hydrocortisone ointment.

CONCLUSIONS

The application of hydrocortisone as a 2.5 per cent ointment directly to aphthous mouth ulcers did not affect the healing time. In a few cases there appeared to be more rapid relief of pain than was obtained with placebo medication.

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From the Student Health Service, University of California at Los Angeles, Los Angeles 24.

Submitted October 28, 1954.

CASE REPORTS

Coexistent Arrested Disseminated Coccidioidomycosis and Boeck's Sarcoid

FRANK W. ELLIS, *M.D.*, Long Beach

Few issues in the field of internal medicine have aroused more interest, speculation and controversy in recent years than the question of the cause of sarcoidosis. The literature on the subject is already massive and it is not the purpose of this case report to discuss this problem or to suggest another etiologic theory for this clinical entity. The following case of the coexistence of arrested disseminated coccidioidomycosis and Boeck's sarcoid is presented as a medical curiosity only, since a review of the literature on both diseases does not disclose a similar case.

REPORT OF A CASE

A 29-year-old Negro male laborer was admitted to the Long Beach Veterans Administration Hospital on January 14, 1953, with complaint of "painful lumps in the neck" of six months' duration. There were no other complaints and the patient did not at first admit to previous illness or hospitalization. He was healthy-appearing and fully ambulatory on admission.

The patient did not appear acutely or chronically ill. The temperature was 98° F., the pulse rate 80, and respirations 16 per minute. The blood pressure was 100/80 mm. of mercury. There was generalized enlargement of lymph nodes, most pronounced in the cervical, suboccipital and axillary areas. The nodes were from 1 cm. to 3 cm. in diameter and were nontender, discrete, rubbery and freely movable. There were plaque-like, elevated hyperpigmented skin lesions over the cheeks, right eyelid, right external nasal orifice, both external ears and the dorsum of the right forearm. There was an old atrophic, almost invisible scar over the lower third of the right tibia and a fine linear scar on the posterior aspect of the neck, both residual of suppurating coccidioidal abscesses in 1950. The liver and spleen were not palpably enlarged.

Laboratory examinations showed leukopenia, normal hemoglobin, normal sedimentation rate, normal liver function, and negative serologic tests for syphilis. Serum protein content was 4.0 gm. of albumin and 4.2 gm. of globulin per 100 cc.

X-ray examination of the chest showed prominent lobulated bilateral hilar adenopathy (Figure 1). In films of the skull (Figure 2), an ovoid bone defect, 8 x 10 mm., was noted in the posteroinferior portion of the left parietal bone. No abnormalities of the hands and feet were noted in x-ray examination.

Reactions to skin tests with purified protein derivative strengths 1 and 2 were negative, as were results of tests with histoplasmin and coccidioidin. No organisms were noted in smears, specially stained specimens, cultures for acid-fast bacilli and fungi, and guinea pig inoculations with material from three cervical nodes, from the right cheek and from the granulomatous lesion of the right nares. A Kveim test was not done because the test material was not available.

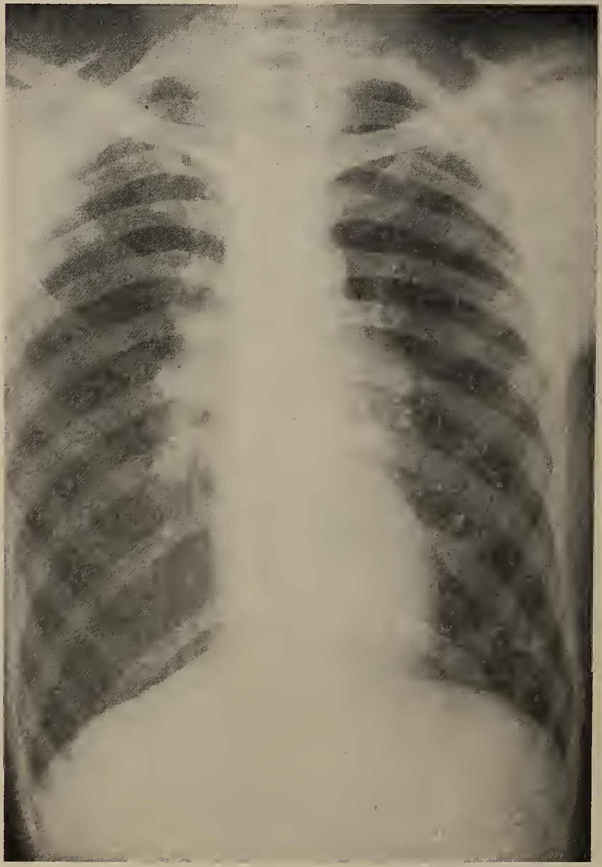


Figure 1.—X-ray film of chest, January 1953.

From the Medical Service, Veterans Administration Hospital, Long Beach 4.

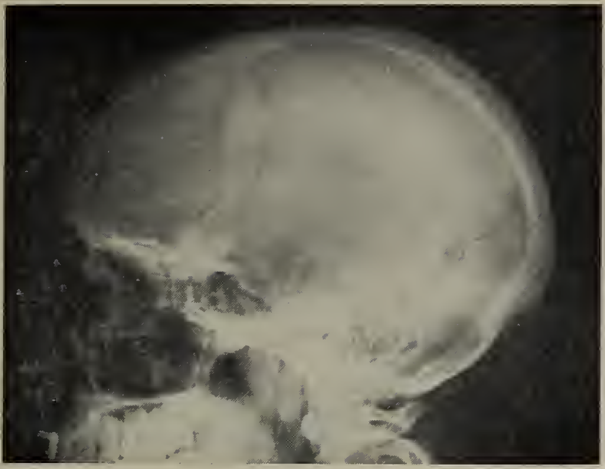


Figure 2.—X-ray film of skull, January 1953.

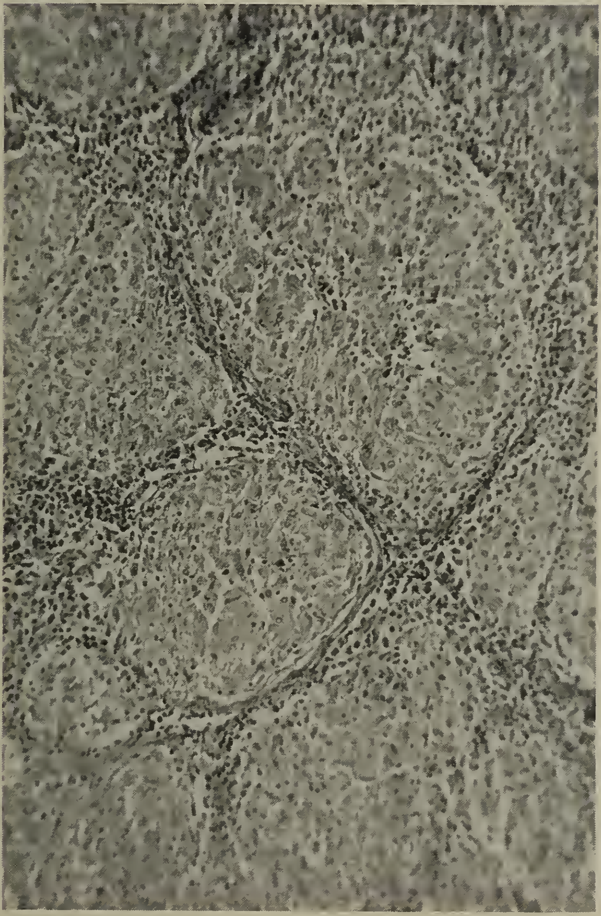


Figure 3.—Cervical lymph node replaced by a group of monotonous, coalescing sarcoid granulomas (×225).

The pathologist's report on biopsies of cervical nodes, skin and nasal mucosa was as follows: "The lymph node is replaced by a group of monotonous coalescing sarcoid granulomas, which consist of epithelioid cells and occasional Langhans' type giant cells. There is minimal central necrosis of these granulomas and sprinkling of lymphocytes throughout [Figure 3].

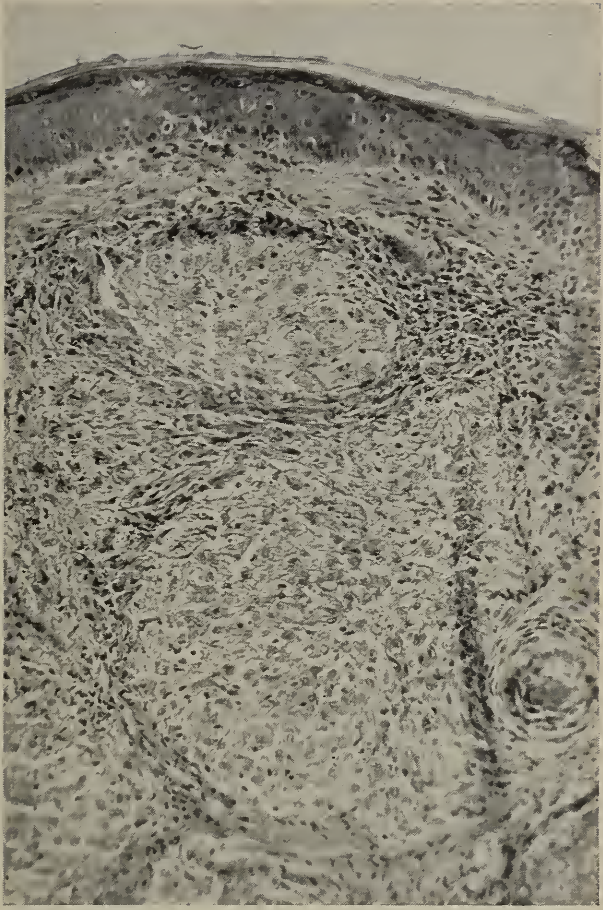


Figure 4.—Skin—almost the entire dermis is replaced by sarcoid granulomas (×225).

"The skin shows almost the entire dermis replaced by granulomas. The arrangement of the epithelioid cells into small tubercles with an occasional Langhans' type giant cell and little or no eosinophilic necrosis is characteristic of sarcoidosis [Figure 4]."

On the basis of clinical and laboratory data the diagnosis of sarcoidosis was established in a healthy young Negro male with lymphadenopathy (particularly mediastinal), skin lesions, bone lesion, hyperglobulinemia, leukopenia, lymph node and skin biopsies indicative of sarcoidosis, and with negative reaction to skin tests and no growth of organisms on bacterial and fungal cultures.

Meanwhile, the patient having volunteered that he had been hospitalized elsewhere in 1950, the hospitalization record was obtained. Following is a brief abstract of it:

The patient was admitted March 29, 1950, with complaint of weakness, loss of weight, fatigue, abdominal pain, fever, "knots behind the ears" and a draining sore on the ankle of one month's duration. Pertinent past history was that he had picked tomatoes the last four months of 1949 in Bakersfield, Kern County, California.

On admission the patient was described as a thin, emaciated, toxic young Negro male with temperature of 100° F., pulse 106 and respirations 22 per minute. There was bilateral postauricular and suboccipital adenopathy, with a fluctuant lesion in the right suboccipital area and fluctuant lesions over both lower extremities.

Leukocytes numbered 7,400 per cu. mm. of blood—72 per cent polymorphonuclear cells, 11 per cent lymphocytes, 9 per cent monocytes, and 1 per cent eosinophils. Erythrocytes numbered 4.25 million per cu. mm. and the hemoglobin content was 11.0 gm. per 100 cc. The sedimentation rate was 66 mm. in one hour. Serologic tests for syphilis were negative. There was negative reaction to a skin test with purified protein derivative but a test with coccidioidin was positive in a dilution of 1:10. No abnormality was noted on spinal fluid examination or liver function tests. There was no growth of organisms on cultures of blood. The serum protein content, determined on three occasions, was 8.0, 8.1, and 9.1 gm. per 100 cc., the respective globulin values being 4.1, 4.0 and 4.3 gm. Coccidioidomycosis complement-fixation determinations were positive through the eighth dilution (1:128) on four separate determinations (April 13, April 21, June 22 and August 3, 1950).

The following roentgenographic observations were noted: "Skull films show an irregular 2 cm. osteolytic lesion in the left posterior parietal region just anterior to the lambdoid suture involving both tables of the skull. A few similar 3 to 4 mm. areas of focal osteoporosis are seen in the lower occiput in the midline [Figure 5]. Chest film shows bilateral hilar and left paratracheal adenopathy with a semiconfluent infiltrate throughout the left upper lung field [Figure 6]. Spine x-rays negative. Hands and feet negative. Right ankle: There is a 1 cm. destructive area in the anteromedial portion of the tibia."

On May 5, 1950, 20 cc. of yellow pus was aspirated from the left occipital area abscess and a culture of Coccidioides immitis was obtained. Again on July 1, 25 cc. of pus was obtained from a draining left postauricular node, and doubly refractile spherules were seen in direct smear of the material. Coccidioides immitis also grew on a culture of the pus. There were two more positive Coccidioides cultures reported on April 22 and May 11, 1950, the source of the inoculum being undetermined, however, from the laboratory report, although drainage from the right tibial abscess was described in the progress notes. The patient gradually improved somewhat with supportive therapy and was discharged in August 1950, with the final diagnosis of disseminated coccidioidomycosis.

After this unequivocal proof of the previous diagnosis of disseminated coccidioidomycosis was obtained, complement-fixation determinations were carried out and reported "positive" at dilution of 1:64 on February 26, 1953.

It was then felt that the current clinical diagnosis of sarcoidosis might represent an aspect of the "healing" or "arrested" phase of disseminated coccidioidomycosis. However, this combination of histologic appearance, clinical features and hyperglobulinemia has not been described as a manifestation of the late stage in coccidioidomycosis. Dr. J. Walter Wilson, consulting dermatologist and mycologist, examined the patient and the microscopic slides, concurred in the diagnosis of apparent sarcoidosis, and stated that in his experience he had not seen a previously proven case of disseminated coccidioidomycosis presenting years later as sarcoidosis.[12] Dr. C. E. Smith of the University of California School of Public Health also stated that he had not previously seen a similar situation.[10] Dr.

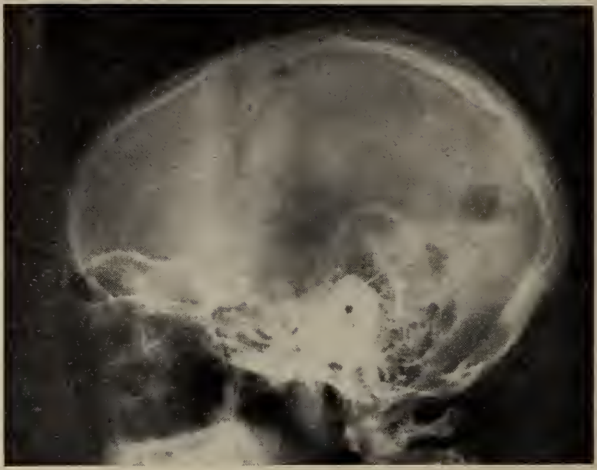


Figure 5.—X-ray film of skull, March 1950.

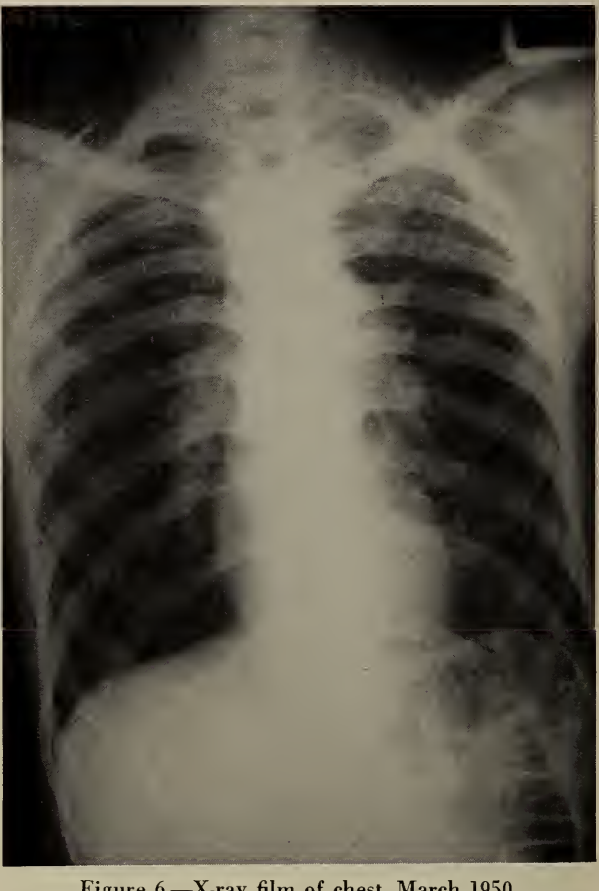


Figure 6.—X-ray film of chest, March 1950.

L. R. Hyde of the staff of Long Beach Veterans Administration Hospital, in charge of the nontuberculous chest disease service, had just recently reviewed the cases of disseminated coccidioidomycosis observed at the hospital (31 cases in the previous six years), and he too said that he was unaware of a similar case.[5]

DISCUSSION

With the predilection of both these diseases for Negroes, it does not seem too surprising to find the two in one person. Two questions, however, are naturally raised: (1) Is the current diagnosis of sarcoidosis justified, and (2) is there any relationship between the two conditions in this case?

Sarcoidosis appears in such a variety of clinical forms that the literature on it has reached enormous proportions. There is available no accepted single diagnostic manifestation or pathognomonic criterion. The best definition of the disease is that prepared by the Conference on Sarcoidosis of the National Research Council (February 11, 1948): "Sarcoidosis is a disease of unknown etiology. Pathologically it is characterized by the presence in any organ or tissue of epithelioid cell tubercles with inconspicuous or no necrosis and by the frequent presence of refractile or apparently calcified bodies in the giant cells of the tubercles. The characteristic lesions may be replaced by fibrosis, hyalinization or both.

"Clinically the lesions may be widely disseminated. The tissues most frequently involved are lymph nodes, lungs, skin, eyes and bones, particularly of the extremities.

"The clinical course usually is chronic with minimal or no constitutional symptoms; however, there may be acute phases characterized by a general reaction with malaise and fever. There may be signs and symptoms referable to the tissues and organs involved.

"The intracutaneous tuberculin test is frequently negative; the plasma globulins are often increased."[7]

As Freiman[4] has so well stated, "At some time or other, practically every agent capable of producing a granulomatous reaction or of diffusely affecting the reticuloendothelial system has been suggested as a possible cause of sarcoidosis." The more frequently mentioned include those of tuberculosis, silicosis, leprosy, syphilis, brucellosis, berylliosis, asbestosis, cancer, leishmaniasis, histoplasmosis, Whipple's disease, and regional ileitis.[7] Also, Löfgren and Lundbäck[8] reported isolation of a virus in six cases. Coccidioidomycosis seems to be conspicuously absent.

Freiman[4] continued: "Considerable confusion has also resulted in the past from the assumption that the morphologic appearance of the lesion is pathognomonic. When typical, the sarcoid lesion is highly characteristic, but many cases show sufficient departure from the generally accepted norm to make histologic differentiation from miliary tuberculosis, brucellosis, or other granulomatous disease practically impossible. So little is actually known of the genesis of these lesions, particularly their early phases, that the extent of permissible variations is still largely a matter of conjecture, and pathologists disagree considerably among themselves regarding the morphologic criteria for diagnosis.

"Even granting the presence of a typical sarcoid lesion, this alone cannot be construed to constitute diagnostic proof. It has become increasingly clear that a careful distinction must be made between the 'sarcoid lesion' and the disease 'sarcoidosis.' The evidence provided by biopsy is essential but constitutes only one link in the chain of evidence required in making a reliable diagnosis."

Pinner[9] in an editorial on the etiology of sarcoidosis cautioned: "There is now evidence of a trend to overdiagnose sarcoidosis, not only clinically and roentgenographically, but histologically as well. It is also pertinent to recall that the clinical and roentgenological diagnosis of sarcoidosis is beset with difficulties and uncertainties. The appearance of the chest roentgenogram is suggestive at best, but not pathognomonic. It is even conceivable that disseminated pulmonary lesions are not due to sarcoidosis in some patients in whom biopsies of lymph nodes contain sarcoid structures. The etiological problem is further complicated by the probability that histologically characteristic lesions may be caused by agents other than that unknown 'x' that causes sarcoidosis. In other words, it is quite possible, or even probable, that the characteristic structural entity sarcoidosis may be caused by more than one etiological agent."

Without further argument, it seems that in the present case the criteria for the diagnosis of sarcoidosis were fulfilled. Indeed, had the patient not received medical attention in 1950, or had the correct diagnosis of disseminated coccidioidomycosis not been made at that time, or had he persisted in the original denial of previous illness and hospitalization, it is probable that the present diagnosis of sarcoidosis would have been made with assurance, and, of course, the question of disseminated coccidioidomycosis would never have arisen.

As was previously mentioned, so far as the present author can ascertain, there has not been previously published evidence of disseminated coccidioidomycosis appearing in later years as sarcoidosis. Of course, there is a scarcity of pathologic material from healthy patients with coccidioidal infection "arrested" four years or more following serious illness, as in the present case. Nearly all histologic studies and pathologic descriptions are based either on autopsy studies or on the acute phases of dissemination.[1, 2, 3, 11, 13] And "recovery" as shown by this patient is distinctly unusual, particularly in Negroes. According to Smith,[10] "one could never consider disseminated coccidioidal infection as 'healed.' We have records of many patients with disseminated infections who, ten or more years after 'arrest,' have gone on to fatal dissemination."

The patient was reexamined in September 1953, and his condition was unchanged. Unfortunately, specimens of blood for repeat coccidioidomycosis complement-fixation studies and serum protein determinations were lost in the laboratory. Several attempts to have the patient return for continuing observation have been unsuccessful, although he reported by letters of February and August 1954 that he was well and his health unchanged.

Concerning any relationship between these two diseases, nothing can be proved. It is not possible to establish whether the patient, herein described, originally had sarcoidosis and disseminated coccidioidomycosis subsequently developed, or whether disseminated coccidioidomycosis simulated sarcoidosis. The author is inclined to believe the coexistence to be coincidental. Israel and co-workers[6] in a case report of chronic disseminated histoplasmosis, while discussing the relationship to sarcoidosis, made the observation: "The parallelism between histoplasmosis and coccidioidomycosis is remarkable. Both diseases were originally recognized as rare and invariably fatal infections, and both have been shown to be widespread infections usually subclinical and benign."

Since, in the case herein reported, hyperglobulinemia was present in 1950 at the time of the establishment of the diagnosis of disseminated coccidioidomycosis, it is possible that sarcoidosis was already present and that the lesions of disseminated coccidioidomycosis occurred at the same sites. The apposition of the two types of lesions does not necessarily imply a common cause any more than does the concomitant presence of the lesions of tuberculosis with Hodgkin's disease or silicosis.

SUMMARY

A case is presented of a young Negro male who shows at present the clinical, laboratory and biopsy manifestations of sarcoidosis. This patient was also shown to have disseminated coccidioidomycosis four and a half years earlier. This combination of circumstances has not previously been reported. No relationship between the two, other than coincidental, is suggested.

5901 Seventh Street, Long Beach 4.

REFERENCES

1. Cox, A. J., and Smith, C. E.: Arrested pulmonary coccidioidal granuloma, Arch. Path., 27:717-734, April 1939.

2. Duemling, W. W.: Progressive disseminated coccidioidomycosis, Arch. Derm. and Syph., 60:781-788, Part I, Nov. 1949.

3. Forbus, W. D., and Bestebreurtje, A. M.: Coccidioidomycosis: a study of 95 cases of the disseminated type with special reference to the pathogenesis of the disease. Mil. Surgeon, 99:654, Nov. 1946.

4. Freiman, D. G.: Sarcoidosis, N.E.J.M., 239:664-671, Oct. 28; 709-716, Nov. 4; 743-749, Nov. 11, 1948.

5. Hyde, L. R.: Personal communication to the author.

6. Israel, H. L., DeLamater, E., Sones, M., Willis, W. D., and Mirmelstein, A.: Chronic disseminated histoplasmosis. An investigation of its relationship to sarcoidosis, Am. J. Med., 12:252, Feb. 1952.

7. Katz, S., Cake, C. P., and Reed, H. R.: Sarcoidosis, N.E.J.M., 229:498-508, Sept. 23, 1943.

8. Löfgren, S., and Lundbäck, H.: Isolation of a virus from six cases of sarcoidosis. Preliminary report, Acta. med. scandinav., 138:71-75, 1950.

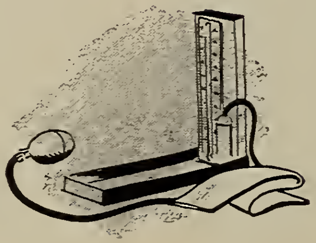
9. Pinner, M.: On the etiology of sarcoidosis, Am. Rev. Tuberc., 54:582-584, Dec. 1946.

10. Smith, C. E.: Personal communication to the author.

11. Smith, C. E.: Coccidioidomycosis, M. Clin. N. A., 27: 790-807, May 1943.

12. Wilson, J. W.: Personal communication to the author.

13. Wilson, J. W.: Coccidioidomycosis as a tool in the study of granulomatous disease, Calif. Med., 78:257, April 1953.



California
MEDICINE

For information on preparation of manuscript, see advertising page 2

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EDITORIAL

Proposed Changes in Federal Medical Services

When it submitted its recommendations to Congress as to changes that should be made in the health and medical services of the Federal Government, the Commission on Organization of the Executive Branch—the Hoover Commission—made substantial departures from the recommendations it had received from the Task Force on Federal Medical Services. The Commission had set up the Task Force to advise it in that field.

The most significant differences between what the Task Force recommended to the Commission and what the Commission recommended to Congress were those involving the extent of medical services and disability pensions for various classifications of veterans. (A comparison of the proposals of the Task Force with the recommendations that the Commission made to Congress appears on page 413 of this issue.) By and large, the Commission's recommendations in this respect were not so vigorous as those of the subsidiary group and to that extent disappointing. Yet the recommendations that *were* made are good so far as they go. Moreover, even the portions of the Task Force proposals that were not retained in the Commission's report to Congress cannot be looked upon as entirely wasted, for they are now matters of record which Congress and the Executive Branch may consult, now or later, in making changes in the medical services of the Government and in the methods of supplying them.

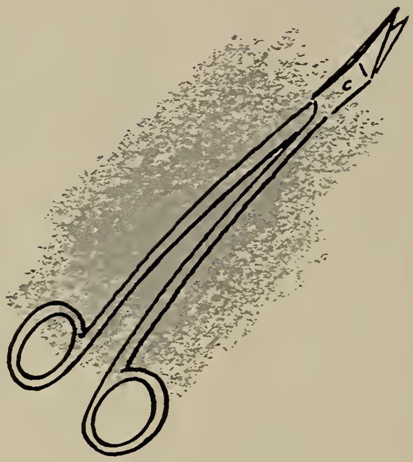
In its report, the Task Force carefully and logically set forth the reasons for all the changes it proposed. The report hardly can be seriously charged with bias, for the body that made it certainly was not made up of men of a single mind or political persuasion or economic attitude. A group of 16 experts in various fields of medical organizations and medical care—physicians in private practice, medical educators, leaders in medical research, hospital administrators, and public health administrators—met frequently over a period of a year to study pertinent information which the group had collected from various sources and which, at its direction, had been analyzed for it by a consultant staff. After full study and discussion of the information, conclusions were drawn and recommendations were made to the Hoover Commission. On most points the recommendations were unanimous. If there was dissent, the reasons for it were set forth in the report.

The availability of this unbiased, well-reasoned report as a possible guide for action not at present recommended by the Hoover Commission but which may be feasible later, becomes significant in light of the fact that the Commission did recommend for adoption the most important of all the Task Force proposals. That proposal is for the setting up of a Federal Advisory Council of Health, appointed by the President, which would henceforth maintain continuing studies for coordination, elimination of duplication and development of overall policies for health and medical agencies in the Government. Through the continuing studies and advice of the Advisory Council, some of the proposals of the Task Force that were set aside or considerably diluted by the Commission might again be brought to the fore.

Another hopeful aspect of the Commission's recommendations is the emphasis put upon voluntary prepaid medical care plans for certain government employees and by dependents of armed services personnel. One benefit of putting such plans into effect would be to relieve the Government of the responsibility for care of persons who ought not be cared for from the public purse. Another would be the advertisement and extension of a means, long advocated by members of the medical profession, of supplying medical care and meeting its costs within the framework of private practice and personal budget, as distinguished from socialized medicine and government fisc.

Not the least of the Commission's recommendations is one under which the Department of Medicine and Surgery rather than the Compensation and Pension Branch of the Department of Veterans Benefits would be given the responsibility of establishing and maintaining criteria as to disability and degree of disability as a basis for compensation and pension payments to veterans. It would also provide for periodic review of disability allowances based on the likelihood of increase or decrease in disability, as medically determined. In other words the recommendation is that medical standards be set up for answering what are, essentially, medical questions. Perhaps this proposition will arouse protest among groups that make capital of protesting any suggestions that might reduce any benefit, whether fair or unfair, to any veteran. However, honest administration of the proposed system of criteria and review should reassure anyone, except professional alarmists, that there is no intent to deprive deserving veterans of needed benefits.

It is probable that most physicians who compare the Task Force proposals with the Commission's recommendations will find that at most points of disagreement the Task Force's proposals are closer to medical and economic ideals. That being the case, physicians should exercise their influence where and when they can toward bringing into effect first the important proposals of the Commission and subsequently those of the Task Force, which in general are more vigorous and far-reaching than those of the Commission. Constant, widespread advocacy of changes for the better must ultimately bring them about.



California MEDICAL ASSOCIATION

NOTICES & REPORTS

Executive Committee Minutes

Tentative Draft: Minutes of the 248th Executive Committee Meeting, San Francisco, Sir Francis Drake Hotel, March 9, 1955.

The meeting was called to order by Chairman Heron in Room 217 of the Sir Francis Drake Hotel, San Francisco, on Wednesday, March 9, 1955, at 4:00 p.m.

Roll Call:

Present were President Morrison, President-elect Shipman, Speaker Charnock, Council Chairman Lum, Auditing Committee Chairman Heron, Secretary Daniels and Editor Wilbur.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Clancy and Gillette of C.M.A. staff; legal counsel Hassard; health insurance consultant Waterson; Dr. Dan O. Kilroy, representing the legislative committee, and Drs. Frances Baker, William H. Northway, Carl E. Anderson and Hendrie L. Gartshore.

1. *Physical Therapy:*

Drs. Baker, Anderson and Northway reported that registered physical therapists in some areas are establishing individual offices in nonhospital locations and that adequate supervision of their practices is not possible under these circumstances. In addition, they called the attention of the Executive Committee to several hospitals locally that are leasing out the physical therapy departments to registered physical therapists under inadequate supervision. This would be similar to leasing out the x-ray departments to the x-ray technicians. They asked that this matter be examined in order to provide proper professional safeguards. On motion duly made and seconded, it was voted to refer this request to the Committee on Public Health and Public Agencies.

2. *Public Policy and Legislation:*

Dr. Carl E. Anderson reported that some district attorneys are interpreting a state statute denying county employment to aliens as prohibiting the staff service in county hospitals on a volunteer basis. It was agreed that legal counsel should investigate such interpretations and, if possible, secure a broader ruling on the state law.

3. *Membership:*

(a) On motion duly made and seconded in each instance, it was voted to elect ten applicants to Retired Membership. These were: L. I. Oppenheimer, Alameda-Contra Costa; Eric Lindroth, Percy K. Telford, Los Angeles County; John N. Osburn, Robert S. Wade, Orange County; Edward A. Blondin, Alice L. Kelly, William C. Newton, San Diego County; Wm. O. Montgomery, Edward Topham, San Francisco County.

(b) On motion duly made and seconded in each instance, it was voted to elect 11 applicants to Associate Membership. These were: Samuel Rosner, Fresno County; Marie Anna Kiobege, Vernon M.

ARLO A. MORRISON . . . . President
SIDNEY J. SHIPMAN, M.D. . . . . President-Elect
DONALD A. CHARNOCK, M.D. . . . . Speaker
WILBUR BAILEY, M.D. . . . . Vice-Speaker
DONALD D. LUM, M.D. . . . . Council Chairman
ALBERT C. DANIELS, M.D. . . . . . . Secretary-Treasurer
IVAN C. HERON, M.D. . Chairman, Executive Committee
DWIGHT L. WILBUR, M.D. . . . . Editor
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Parrett, Los Angeles County; Leo W. Farrell, Sacramento County; Faith N. Ogden, Warren G. Wieand, San Diego County; Ernest E. Wise, San Joaquin County; Hyman Tucker, Santa Clara County; Rourke E. Downey, Harry Stahr, David B. Williams, Stanislaus County.

(c) On motion duly made and seconded in each instance, reductions of dues were voted for ten applicants for reasons of protracted illness or postgraduate study.

4. *Cancer Commission:*

A request from the Cancer Commission for an additional $500 to meet added costs of temporary secretarial service was discussed. It was agreed that this expenditure was merited and the funds should be charged against the Cancer Commission budget.

5. *Committee Expenses:*

Discussion was held on the propriety of meeting expense accounts for a period dating 1948 to 1951 for a subcommittee member operating as chairman of an outside committee but given the moral support of the Association and asked to report to one of the standing committees. It was agreed that the facts should be investigated and further consideration given this matter.

6. *State Department of Public Health:*

Discussion was held on the request of the State Department of Public Health for appointment of a committee to consider the proposal to establish an epidemiological study center for chronic diseases under a three-year grant from a foundation. Various names were suggested and the Council chairman authorized to name such committee.

7. *Psychiatric Clinics:*

Drs. Gartshore and Kilroy discussed two bills pending before the State Legislature, to establish psychiatric clinics under joint state-county financing. It was agreed that Dr. Gartshore's Committee on Mental Health continue to study this proposal and make further report to the Council.

8. *Rollen Waterson Associates:*

Mr. Waterson reported that 24 counties, through their medical societies, have now approved the $6,000 C.P.S. income ceiling; this represents a state population of 3-4,000,000 people. He also reported that C.P.S. now has an individual contract available and that a concentrated campaign will be put on in San Bernardino County to promote this contract. An additional campaign is planned in San Francisco, where the second vote of the county society again showed approval of the $6,000 ceiling. He suggested that the emphasis of his work now be directed at proving the worth of the new C.P.S. programs.

Mr. Waterson presented a report of funds authorized and expended to date and a proposed budget for March and April. On motion duly made and seconded, these items were approved.

9. *Public Relations:*

Mr. Clancy reported that three tape recordings on recent health conferences sponsored by labor and other groups have been made available to county societies. He also reported that plans are well along for Student A.M.A. meetings scheduled for Los Angeles on April 17 and San Francisco on April 24.

10. *Physicians and Schools:*

Dr. Daniels proposed that the Association sponsor, both in personnel and finances, the holding of six regional meetings of physicians and schools. On motion duly made and seconded, it was voted to request the Council to approve a maximum of $500 cost for each of these regional conferences.

Dr. Daniels also stated that a statewide Advisory School Health Council to the California Medical Association would be formed and that the services of the county societies would be requested in aiding this council.

11. *C.M.A. Committees:*

Dr. Morrison reported progress in studying the organization of standing and special committees of the Association. He agreed to have a plan for such organization ready for the April 2 Council meeting, including, if necessary, proposed By-Law amendments to permit the type of reorganization required.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 6:55 p.m.

IVAN C. HERON, M.D., *Chairman*
ALBERT C. DANIELS, M.D., *Secretary*

In Memoriam

Andrews, A. V. Died in Los Angeles, March 31, 1955, aged 51, of coronary artery disease. Graduate of the University of Colorado School of Medicine, Denver, 1933. Licensed in California in 1934. Doctor Andrews was a member of the Orange County Medical Association.

◆

Azevedo, Manuel L. Died in Sacramento, March 27, 1955, aged 69. Graduate of Stanford University School of Medicine, Stanford University-San Francisco, 1921. Licensed in California in 1921. Doctor Azevedo was a member of the Sacramento Society for Medical Improvement.

◆

Beall, Mary E. Died in San Bernardino, March 4, 1955, aged 79. Graduate of the Homeopathic Medical College of St. Louis, Missouri, 1895. Licensed in California in 1918. Doctor Beall was a member of the San Bernardino County Medical Society.

◆

Bennett, Charles L. Died in Marion, Ohio, April 7, 1955, aged 85. Graduate of the Chicago Homeopathic Medical College, Illinois, 1890. Licensed in California in 1910. Doctor Bennett was a retired member of the Los Angeles County Medical Association, the California Medical Association, and an associate member of the American Medical Association.

◆

Bower, Richard L. Died in Pebble Beach, March 26, 1955, aged 63, of cerebral embolism. Graduate of Northwestern University Medical School, Chicago, Illinois, 1920. Licensed in California in 1928. Doctor Bower was a member of the Monterey County Medical Society.

◆

Carson, Virgil H. Died in Oakland, February 9, 1955, aged 60, of coronary occlusion. Graduate of the Medical College of Virginia, Richmond, 1914. Licensed in California in 1931. Doctor Carson was a member of the Alameda-Contra Costa Medical Association.

◆

Droz, Adolphus K. Died in Long Beach, January 23, 1955, aged 52. Graduate of the State University of Iowa College of Medicine, Iowa City, 1928. Licensed in California in 1947. Doctor Droz was a member of the Los Angeles County Medical Association.

◆

Dzierz, Jack W. Died in Riverside, March 5, 1955, aged 36, of asphyxiation. Graduate of the University of Illinois College of Medicine, Chicago, 1951. Licensed in California in 1952. Doctor Dzierz was a member of the Riverside County Medical Association.

◆

Eagle, Henry R. Died near Williams, March 5, 1955, aged 36, in an automobile accident. Graduate of Cornell University Medical College, New York, 1943. Licensed in California in 1945. Doctor Eagle was a member of the Shasta County Medical Society.

Garcia, Leon C. Died in San Francisco, March 18, 1955, aged 72. Graduate of St. Louis University School of Medicine, Missouri, 1904. Licensed in California in 1923. Doctor Garcia was a member of the San Francisco Medical Society.

◆

Mooney, Thomas S. Died in Mexico City, Mexico, December 26, 1954, aged 59, of cerebrovascular accident. Graduate of Albany Medical College, New York, 1920. Licensed in California in 1930. Doctor Mooney was a member of the San Diego County Medical Society.

◆

Mullen, Joseph L. Died in Sacramento, November, 1954, aged 59, of carcinoma. Graduate of the Stritch School of Medicine of Loyola University, Chicago, Illinois, 1923. Licensed in California in 1924. Doctor Mullen was a member of the Sacramento Society for Medical Improvement.

◆

Murphy, Francis E. Died in Santa Monica, December 19, 1954, aged 70, of postoperative uremia, following a suprapubic prostatectomy. Graduate of the State University of Iowa College of Medicine, Iowa City, 1905. Licensed in California in 1952. Doctor Murphy was a member of the Los Angeles County Medical Association.

◆

Rohrbacher, George H. Died in Monterey, February 22, 1955, aged 61, of coronary artery disease. Graduate of the University of California Medical School, Berkeley-San Francisco, 1924. Licensed in California in 1924. Doctor Rohrbacher was a retired member of the San Joaquin County Medical Society, the California Medical Association, and an associate member of the American Medical Association.

◆

Schmid, Charles F. Died in Hawthorne, February 19, 1955, aged 69, of coronary sclerosis. Graduate of the Chicago College of Medicine and Surgery, 1913. Licensed in California in 1920. Doctor Schmid was a retired member of the Los Angeles County Medical Association, the California Medical Association, and an associate member of the American Medical Association.

◆

Van Meter, Abram L. Died in San Francisco, March 28, 1955, aged 69, of coronary infarct. Graduate of Harvard Medical School, Boston, Massachusetts, 1913. Licensed in California in 1919. Doctor Van Meter was a retired member of the San Joaquin County Medical Society, the California Medical Association, and an associate member of the American Medical Association.

◆

Wiebe, Dietrich V. Died in San Francisco, March 25, 1955, aged 67. Graduate of the University of Kansas School of Medicine, Lawrence-Kansas City, 1925. Licensed in California in 1927. Doctor Wiebe was an associate member of the Fresno County Medical Society.

WOMAN'S AUXILIARY

TO THE CALIFORNIA MEDICAL ASSOCIATION

WE'RE STILL GROWING

Our biggest news this time is that we have another Auxiliary. Merced has been organized, with twenty-four charter members. Mrs. Ernest Bickell of Livingston is their President, and Mrs. Hugo Haas of Dos Palos is Vice-President. Our sincere congratulations to our new Auxiliary, and to their District Councilor, Mrs. Kendall B. Holmes of Fresno, who has worked so energetically in creating this new group.

That means that we now have 32 Auxiliaries out of a possible 40. Our latest count shows that we have 5,853 members, while the California Medical Association has 12,795. The Los Angeles County Auxiliary has reached a record high of 1,660, but the County Medical Society has 5,490 members. Our membership chairmen throughout the state have done a magnificent job this year, but it is apparent that we will need the interest and cooperation of all of our doctors if we are to reach that elusive goal, "Every eligible doctor's wife an Auxiliary member."

* * *

HELP FOR CEREBRAL PALSIED CHILDREN

For many years, one of the most gratifying projects carried on by our San Luis Obispo County Auxiliary is their work with the Chris Jesperson School for Cerebral Palsied Children. This year, the members made a 30-inch nylon-stuffed doll which the youngsters will use as a training aid in learning to dress themselves. The members are now working on a boy-doll for the school. This project rated a notice in our national *Bulletin,* as did the series of dinner-programs sponsored by the Los Angeles County Auxiliary. The *Bulletin* editors go through all the state publications, searching for newsworthy items.

* * *

NURSE RECRUITMENT CONTINUES TO GROW IN CALIFORNIA

We have already told you about many of the counties doing outstanding work in nurse recruitment. Yuba-Sutter-Colusa counties, under the able chairmanship of Mrs. James Hamilton, did an intensive recruitment job for three weeks. Eleven high schools were visited and a large number of girls were interviewed. Out of that group, 24 girls have decided on nursing as a career.

Sacramento County, of course, has long been a leader in nurse recruitment; they award twenty $100 scholarships each year—sometimes more, if there is a demand for them.

Butte-Glenn counties, too, give an annual scholarship of $250, and they also sponsor a Future Nurses' Club and show films on nursing at the junior and senior high schools in their counties. In Marin County, the parents as well as the students are invited to attend the movie and panel discussion presented by the Auxiliary for junior and senior high schools.

Stanislaus County has two Future Nurses' Clubs, and three more are being organized. An annual fashion show provides funds for their scholarships for student nurses. Four scholarships of $250 each are awarded annually by the Contra Costa Auxiliary.

Five girls from Monterey-San Benito counties are in training as student nurses because of the $150 scholarship each has received from the Auxiliary there. Much of this money was raised at a tea and display of Christmas arrangements and table settings which the group sponsored in December.

* * *

GOOD PUBLIC RELATIONS IS OUR GOAL

In everything we do and say, our ultimate objective is to create and maintain good public relations for the medical profession. It is pleasant to report that many of our county Medical Societies take an active interest in helping us to achieve this goal. In Orange County, for instance, a group of doctors presented a panel discussion for the Auxiliary on "What the Doctor Feels His Wife Should Know About Public Relations."

* * *

WE ARE HOSTESSES FOR MEDICAL SOCIETY EVENTS

Typical of the cooperation between our Auxiliaries and the County Medical Societies is the assistance given by the Imperial Auxiliary when their Society held a postgraduate seminar at the Pioneers' Hospital in Brawley, by serving as hostesses and providing recreation for the visiting wives. The members also staffed the Medical Society's booth at the county fair.

* * *

JUNE ISSUE WILL SUMMARIZE THE YEAR'S ACHIEVEMENTS

The final page in this series of twelve monthly reports will present the highlights of our accomplishments during the past year. Mrs. Matthew Hosmer, our new State President, will begin her reports in the July issue.

MRS. FREDERICK J. MILLER, *Past President*

NEWS & NOTES

NATIONAL • STATE • COUNTY

ALAMEDA

Dr. Charles E. Smith, dean of the University of California School of Public Health, Berkeley, was reelected president of the State Board of Public Health at the board's March meeting. **Dr. James F. Rinehart,** professor of pathology, University of California School of Medicine, San Francisco, was reelected vice-president of the board. Both have served in those offices since 1944. Dr. Smith has been a member of the board since 1940 and Dr. Rinehart since 1942.

LOS ANGELES

A symposium on poliomyelitis sponsored by the Western Section of the **American Congress of Physical Medicine and Rehabilitation** will be held Wednesday, May 18, at the Statler Hotel in Los Angeles. Four panel discussions will be held, two in the morning and two in the afternoon. Dr. William D. Paul, president of the American Congress of Physical Medicine and Rehabilitation, will be a discussant on one of the panels.

* * *

A research grant totaling $17,150 has been awarded the College of Medical Evangelists School of Medicine by the National Cancer Institute. The study of the mechanism of action of "anti-tumor compounds known to react with the thiol group" will be carried out in the Department of Pharmacology by Drs. Mervyn G. Hardinge and Ian M. Fraser and will extend over a two-year period. At the same time it was announced that the United Cerebral Palsy Association of Los Angeles County has renewed a grant of $14,000 for the third year. The funds finance, until November 1, CME services of cerebral palsy pre-nursery school and cerebral palsy counseling service.

SAN FRANCISCO

Officers of the **San Francisco Dermatological Society** for 1955-1956, elected at a recent meeting, are: Dr. Paul Fasal, San Rafael, president; Dr. George T. Lenahan, San Francisco, vice-president; Dr. R. Raymond Allington, Oakland, secretary; and Dr. Edward J. Ringrose, Berkeley, editor.

* * *

Dr. Robert M. Worth, a graduate of the University of California School of Medicine now interning at Southern Pacific Hospital, recently was named **winner of a $1000 scholarship** by the American Academy of General Practice. The Academy makes awards of funds supplied by Mead Johnson & Co. for graduate training in general practice.

* * *

Dr. Francis T. Hodges of San Francisco, president of the Board of Trustees of California Physicians Service and a past president of the California Academy of General Practice, was elected vice-president of the Blue Shield Commission, the coordinating agency for 77 prepaid medical care plans, at the recent annual meeting of the organization in Chicago. Mr. K. L. Hamman, executive director of C.P.S., was elected to the Blue Shield board.

TULARE

Dr. Elmo Alexander, formerly of Oakdale, accepted appointment as **Tulare County Health Officer,** effective April 1. Dr. Alexander became the first full-time health officer in almost a year. The post had been occupied on a temporary basis by Dr. Elmo Zumwalt, medical director of the county hospital, after the resignation of Dr. Donald Williams last summer.

GENERAL

Eighty-two **medical officers are to be hired** at Department of Defense establishments in California and Nevada during the next six months, the U. S. Civil Service Commission announced recently. The Commission is accepting applications in all optional fields of medicine. Most appointments will be made in general medicine and surgery, according to the announcement, but also needed are specialists in occupational or industrial health and medicine, internal medicine and diagnosis, ophthalmology, obstetrics, roentgenology, pediatrics, ear, nose and throat, and orthopedics. Positions are at government hospitals, supply centers, air stations, shipyards, test centers, and camps and bases.

The vacancies are occasioned by the need to replace military personnel with civilian employees. Most of the medical officers will be full-time employees, although a few part-time positions will be filled.

Further information and application forms may be obtained from the Commission offices at 630 Sansome Street, San Francisco, or from civil service representatives at post offices in California and Nevada.

POSTGRADUATE EDUCATION NOTICES

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Announces the following summer courses:

4th Annual Laboratory Technicians Symposium—June 18 and 19, 1955.

Chemotherapy of Fungus Disease—June 23-25, 1955.

Surgery of the Elbow and Shoulder—July 19 and 20, 1955.

Surgery of the Hand—July 21 and 22, 1955.

Recent Advances in Medicine—July 25-29, 1955.

Basic Techniques of Hypnosis—August 8, 9 and 10, 1955.

Advanced Techniques and Application of Hypnosis—August 10, 11 and 12, 1955.

Anesthesia—August 29, 30 and 31, 1955.

Contact: Thomas H. Sternberg, M.D., Director of Postgraduate Medical Education, U.C.L.A., Los Angeles 24.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

In San Francisco:

Pediatric Conference—June 2 through July 1, 1955.

Conference on Applied Therapeutics—October 17 to October 19.

Conference on Gynecology and Obstetrics—October 20 and October 21.

Ophthalmological Conference—December 5 to December 9.

In East Oakland:

Medicine for General Practitioners—Tuesday evenings, September 20 to December 6.

In Berkeley:

Postgraduate Conference—Wednesday evenings, September to December, 1955.

In San Mateo:

Evening Lectures in Medicine—Thursday evenings, September 22 to December 15.

Contact: Office of Medical Extension, University of California Medical Center, San Francisco 22.

UNIVERSITY OF SOUTHERN CALIFORNIA AT LOS ANGELES

The Medical Extension Education Division of the University of Southern California School of Medicine announces:

Course No. 864: Pediatric Clinics for General Practitioner—weekly clinical conferences at Children's Hospital, Tuesday mornings, for twelve weeks, starting April 5, 1955. Tuition, $25.

Contact: For information and registration: Robert S. Cleland, M.D., Medical Extension Education, University of Southern California, School of Medicine, 2025 Zonal Avenue, Los Angeles 23.

COLLEGE OF MEDICAL EVANGELISTS

Announces graduate courses:

General Surgery and Surgical Specialties—October 3 to June 10, 1955.

Internal Medicine—October 3 to June 10, 1955.

Otolaryngology—October 3 to June 10, 1955.

Contact: Chairman, Section on Graduate and Postgraduate Medicine, College of Medical Evangelists, 1720 Brooklyn Ave., Los Angeles 33.

CALIFORNIA MEDICAL ASSOCIATION, POSTGRADUATE ACTIVITIES INSTITUTES

Sacramento Valley Counties—Cal-Neva Biltmore Hotel and Lodge—June 15, 16, 17, 1955.

Contact: C. A. Broaddus, M.D., Director of Postgraduate Activities, P.O. Box AI, Carmel, California.

Medical Dates Bulletin

This bulletin of the dates of postgraduate education assemblies and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: C. A. Broaddus, M.D., P.O. Box A-1, Carmel, California.

MAY MEETINGS

American Urological Association, Hotel Biltmore, Los Angeles, May 16 to 19, 1955.

Contact: Charles H. deT. Shivers, M.D., 121 South Illinois Ave., Atlantic City, N. J., secretary.

California Heart Association announces a Scientific Program to be held in Santa Barbara, May 21, 1955, with panels on Rheumatic Fever. Electrocardiographic Clinical Pathological Conference, and Management and Mismanagement of Coronary Artery Disease.

Contact: Mrs. William H. Bryant, Jr., president, Santa Barbara County Heart Association, 18 La Arcada Court, Santa Barbara, Calif.

JUNE MEETINGS

American Medical Association announces: Annual Session, 1955, Atlantic City, June 6 to 10, 1955.

OCTOBER MEETINGS

California Society of Internal Medicine meeting at Biltmore Hotel, Santa Barbara, October 1, 1955.

Contact: Mildred D. Coleman, Secretary, 384 Post St., San Francisco.

San Francisco Heart Association announces the Twenty-sixth Annual Postgraduate Symposium on Heart Disease, at St. Francis Hotel, San Francisco. October 5, 6, 7, 1955.

Contact: 604 Mission St., San Francisco 5.

The 1955 Scientific Assembly of the California Academy of General Practice will be held in San Francisco, at the Sheraton-Palace Hotel, October 9-12, 1955.

Contact: William W. Rogers, executive secretary, 461 Market St., San Francisco.

NOVEMBER MEETINGS

American Medical Association announces: Clinical Session, 1955, at Boston, November 29 to December 2, 1955.

INFORMATION

Proposals of the Medical Task Force and of the Hoover Commission

A GREAT DEAL of comment already has been brought forth upon recommendations made to the Congress by the Committee on Organization of the Executive Branch of the Government for changes in the Health and Medical services of the Federal Government. Hence the sources and derivations of those recommendations become a matter of interest.

The changes proposed are one aspect of the assignment given to the Commission by congressional action. That assignment was to carry out studies and make recommendations with a view to promoting economy and improving efficiency of service by various departments in the Executive Branch of the Government. The Commission—headed by former President Herbert Hoover and popularly called the Hoover Commission—divided its work among a number of Task Forces, each made up of experts in the specific field to be studied.

TASK FORCE PERSONNEL

The personnel of the Task Force on Federal Medical Services, appointed by the Hoover Commission, is:

Chairman, Chauncey McCormick (deceased September 8, 1954); Theodore G. Klumpp, M.D., President, Winthrop-Stearns, Inc., New York, N. Y. (appointed September 26, 1954 to replace Mr. McCormick).

Assistant Chairman, Edwin L. Crosby, M.D., director, American Hospital Association, Chicago, Illinois.

Members:

Francis J. Braceland, M.D., psychiatrist-in-chief, Institute of Living, Hartford, Conn., and clinical professor of psychiatry, Yale University, New Haven, Conn.

Otto W. Branhorst, D.D.S., secretary, American College of Dentists, St. Louis, Mo.

Edward D. Churchill, M.D., chief surgeon, Massachusetts General Hospital, and Harvard University Professor, Boston, Mass.

Michael E. DeBakey, M.D., chairman, Department of Surgery, Baylor University, College of Medicine, Houston, Texas.

Evarts A. Graham, M.D., emeritus professor of surgery, Washington University School of Medicine, St. Louis, Mo.

Alan Gregg, M.D., vice-president, Rockefeller Foundation, New York, N. Y.

Paul R. Hawley, M.D., the director, American College of Surgeons, Chicago, Ill.

Hugh R. Leavell, M.D., professor of public health practice, Harvard School of Public Health, Boston, Mass.

Basil C. MacLean, M.D., commissioner of hospitals, New York, N. Y.

Walter B. Martin, M.D., chief of medicine, St. Vincent's Hospital, Norfolk, Va., and president, American Medical Association.

James Roscoe Miller, M.D., president, Northwestern University, Evanston, Ill.

Dwight L. Wilbur, M.D., clinical professor of medicine, Stanford University, San Francisco.

Milton C. Winternitz, M.D., former chairman, Division of Medical Sciences, National Research Council, Washington, D. C.

SCOPE AND METHODS OF STUDY

The medical service functions of the Government studied by the Task Force were:

1. Medical care.
2. Hospital construction.
3. Research in the field of health.
4. Preventive health services.
5. Grants-in-aid to state health programs.
6. Assistance to international health programs.
7. Regulation of foods and drugs.
8. Education and training for health personnel.
9. Medical supply.
10. Organization for disaster.

The Task Force collected information from many sources, including:

1. Reports, interviews and correspondence with representatives of government agencies.

2. Reports, interviews and correspondence with representatives of nongovernment organizations and informed individuals.

3. Answers to formal questionnaires directed to federal agencies.

4. Field studies of federal medical and dental care and medical supply installations.

5. Reports of the previous Hoover Commission and other commissions and study groups.

In its study the Task Force analyzed and interpreted both fact and opinion. When the need arose, it called upon the services of expert consultants, including those in medical education, voluntary sickness insurance, and dental care. However, the entire Task Force considered the evidence before making any recommendations.

Many of the proposals made by the Task Force were adopted by the Hoover Commission as recommendations when the commission made its report to Congress. Others were changed considerably before being submitted as recommendations. Some the commission omitted from its recommendations.

As a part of its report to the Hoover Commission, the Task Force included an estimate of the fiscal effect of its proposals if they were implemented. Some of the proposed changes, it was estimated, would bring about a reduction in government outlays for medical, hospital and disability services. Other proposals would create new services and add to costs. However, it was estimated that the net effect of following all the proposals of the Task Force would be a reduction of approximately $300,000,000 annually in government expenditures (see Table 1).

PROPOSALS AND RECOMMENDATIONS

Following is a resume of the Task Force proposals and of the action on them by the Hoover Commission:

TABLE 1.—*Estimated fiscal effect of changes proposed by Medical Task Force*

Specific areas in which savings would be effected:	
Limitations of hospital care benefits for veterans with no service-connected disability	$150,000,000
Termination of service to merchant seamen	12,000,000
Closing of certain VA hospitals	7,500,000
Coordination of medical supply activities	20,000,000
Reorganization of Food and Drug Administration activities	1,000,000
Change of meat inspection to sampling basis	4,000,000
Reduction of ratio of physicians and dentists in Armed Forces	15,000,000
Improved administration of disability allowances by Veterans' Administration	180,000,000
Regionalization of military medical services	10,000,000
TOTAL	$399,500,000
Specific areas for which increased expenditures are needed:	
A National Council of Health	$ 200,000
A National Library of Medicine	*1,000,000
Health insurance coverage rather than direct medical care to dependents of military personnel	25,000,000
Health insurance for federal civilian employees	55,000,000
Grants to states for health purposes	15,000,000
Research and training grants in psychiatry, and grants to states for community mental health programs	5,000,000
Assistance to school of public health	5,000,000
TOTAL	$106,200,000
ESTIMATED SAVING, NET	$293,300,000

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*Operating expense only. Six million dollars is needed for construction.

FEDERAL ADVISORY COUNCIL ON HEALTH

1. *Task Force Proposal:* To provide continuing coordinated planning and operation of widely dispersed health activities of the Federal Government, legislation should be enacted to establish within the Executive Office of the President a Federal Council of Health charged with the recommendation and continuous evaluation of policy governing the health activities of the Federal Government.

Commission Action: **Substantially accepted as recommendation. (As an alternative it recommended that "in the event the proposed Federal Advisory Council on Health is not created, the President assign the functions of review and advice proposed for it to other agencies.")**

A NATIONAL LIBRARY OF MEDICINE

2. *Task Force Proposal:* Legislation to create and maintain a National Library of Medicine and to transfer to it the collections and the activities of the present Armed Forces Medical Library.

Commission Action: **Accepted as recommendation.**

RESEARCH FOR HEALTH

3. *Task Force Proposal:* That the present system of project grants for research pertinent to health be modified and that it be gradually replaced by a system of five-year block grants to institutions or agencies which would be made in accordance with an approved over-all plan for health research submitted by each; and

That the Federal Council of Health be given responsibility for facilitating the health research programs of the Federal Government, utilizing the National Research Council of the National Academy of Sciences as staff.

Commission Action: **Substantially accepted as recommendation, but no mention made of National Research Council.**

DEPENDENTS OF MILITARY PERSONNEL

4. *Task Force Proposal:*

(a) That the Federal Government continue to carry the responsibility for the provision of medical and hospital care in overseas areas for dependents of military personnel; and

(b) That the Federal Government shall develop for dependents of military personnel within the continental United States a contributory program of medical and hospital insurance for in- and outpatient medical care and hospitalization; participation to be on a voluntary basis.

Commission Action: **Substantially accepted as recommendation.**

VETERANS

5. *Task Force Proposal:* That all existing rules, regulations, executive orders and laws relating to veterans or veterans' benefits, and in particular to

medical treatment and domiciliary care benefits, be consolidated and enacted into a single, all-inclusive, comprehensive code; and

That the Congress enact legislation to provide that veterans receive:

(a) Hospital care for nonservice-connected disabilities if medical need for such disabilities was established within three years after separation from service; and

(b) Outpatient care following hospitalization for those nonservice-connected disabilities for which medical need was established at the time the veteran was hospitalized.

6. *Task Force Proposal:* That the Veterans Administration, within its present facilities, emphasize its program of medical care and rehabilitation services for the aging veteran.

Commission Action **(on Proposals 5 and 6): As to consolidation of laws the Commission concurred. With regard to eligibility for care of nonservice-connected disability, the Commission took the position that "the sentiment of the American people is that a sick and really indigent veteran should be provided care in VA hospitals." It recommended more stringent scrutiny of inability to pay, and provision for collection in the future. The Commission recommended that out-patient care be provided *prior* to hospitalization, as well as after, for the indigent veteran (excluding psychiatric care prior to hospitalization).**

MERCHANT SEAMEN

7. *Task Force Proposal:* That [in light of the fact that the merchant marine is largely a private enterprise] legislation be enacted to end within a reasonable period the federal subsidy to the merchant marine through the provision of medical and hospital services to merchant seamen; and

That pending such termination the Public Health Service and other concerned agencies of the Federal Government cooperate with the merchant marine in developing a program to provide medical and hospital care for merchant seamen in civilian facilities through voluntary health insurance plans.

Commission Action: **For merchant seamen, the Commission recommends termination of care. No reference is made to developing an alternate program. The Commission also recommends care of PHS Commissioned Corps, Coast and Geodetic Survey, and Coast Guard and their dependents in military hospitals, with insurance to be developed for dependents, as with the military. PHS general hospitals to be closed.**

FEDERAL EMPLOYEES

8. *Task Force Proposal:* That Congress enact legislation under which the Federal Government would develop for its employees on a voluntary prepayment basis a program of contributory medical and hospitalization insurance based upon the utilization of payroll deduction.

Commission Action: **Recommended development of a plan by the executive branch of the Government through a pool of private health insurance agencies, the Government to pay part of the cost.**

DENTAL SERVICES FOR MILITARY AND DEPENDENTS

9. *Task Force Proposal:* That in the military departments emphasis be placed on comprehensive dental care for active duty career personnel, and reduced to a minimum for other active duty [short term] and retired personnel; and

That dental care for dependents, other than those at overseas installations, be limited to emergency service.

Commission Action: **Omitted from report.**

HOSPITALS AND HOSPITAL CONSTRUCTION

10. *Task Force Proposal:* That the Veterans Administration close and dispose of by sale or otherwise any hospital which in its judgment can no longer be operated effectively or economically; and

That Congress authorize no further construction of Veterans Administration hospitals.

Commission Action: **Recommended essentially as proposed.**

11. *Task Force Proposal:* That programs for the construction of hospitals and other medical care facilities of all federal agencies be subject to the approval of the Federal Council of Health, with a view to developing joint planning among all agencies affected—nonfederal as well as federal;

That the Council recommend policies for the hospital survey and construction program as it relates to federal hospitals; and

That the Council study the effect of the hospital survey and construction program to evaluate such problems as the regionalization of hospital services, the minimum size of an effective hospital facility, and particularly the relation of the small community hospital to the total hospital program.

Commission Action: **No recommendation.**

MEDICAL SUPPLY

12. *Task Force Proposal:* That joint procurement of medical supplies for all departments and agencies of the Federal Government be assigned to a single agency, and that this agency establish a single federal medical supply catalog and a uniform system of medical stock accounting within the Government; and

That there be established two systems within the Federal Government for integrated storage and distribution of medical supplies; that the military system comprise the Army, Navy, Air Force, Coast Guard, and Federal Civil Defense Administration;

that the civilian system comprise all other federal agencies and be administered by the Veterans Administration on their behalf; and that both systems provide for ownership of medical material by the major using agency.

Commission Action: **Discussion only. Recommendation to be made in Commission's report on Procurement.**

SERVICES FOR THE HEALTH OF THE PUBLIC

13. *Task Force Proposal:* That the Federal Government give greater emphasis to preventive health services, including those rendered in connection with medical care of federal beneficiaries, in the interests of both health conservation and long-range economy.

Commission Action: **Accepted as recommendation but gave responsibility to Federal Advisory Council of Health.**

14. *Task Force Proposal:* That the Federal Council of Health examine means of establishing cooperative planning among federal agencies providing psychiatric care;

That the military services develop special facilities for the study and prevention of mental disorders among military personnel;

That the Veterans Administration give greater emphasis to preventive psychiatric services; and

That the Federal Government, through the Public Health Service, help to meet the problems of mental disease by:

(a) Increased grants to the states to help communities participate in the development of outpatient and child health clinics for mental illness;

(b) Increased research grants to universities and other research centers for investigation of mental health and disease; and

(c) Continued and expanded grants for advanced training for psychiatrists and workers in allied fields, with emphasis on residences and fellowships.

Commission Action: **Recommended but omitted increased grants and community service programs.**

15. *Task Force Proposal:* That the Federal Government strengthen state health programs by maintaining federal grants for health at least at the average level of the years 1948 to 1953, by emphasizing grants for general health purposes (as distinguished from categorical purposes), and by allowing each state to transfer among categories a reasonable proportion of such grants; and

That the Federal Government authorize and encourage states to use a larger share of the grants for the training of health workers, the evaluation of state and local health programs, and the strengthening of local health services.

Commission Action: **Recommend that the Secretary of Health, Education and Welfare consider the problem of "specific federal grants."**

16. *Task Force Proposal:* That the United States adopt a long-term policy in the field of international technical assistance, relating health work to agriculture and education as closely as possible and divorcing it from military assistance;

That multilateral international programs gradually supersede, where practicable, programs involving the United States and only one other country; and

That evaluation of the programs be augmented and carried out on a continuing basis.

Commission Action: **Omitted from report.**

17. *Task Force Proposal:* That the Department of Health, Education, and Welfare make a detailed examination of the policies, programs, and operations of the Food and Drug Administration with a view to curtailing those functions that are no longer essential and augmenting those that have become increasingly important.

Commission Action: **Recommended joint Health, Education and Welfare, Department of Agriculture, and Budget Bureau study of functions.**

18. *Task Force Proposal:* That the functions and activities of the Agricultural Research Service, Department of Agriculture, relating to the control of pesticides be transferred to the Food and Drug Administration; and

That the functions and activities of the Livestock Regulatory Division of the Agricultural Research Service, Department of Agriculture, relating to the regulation of biological products, be transferred to and combined with the biological regulatory work of the National Institutes of Health.

Commission Action: **Omitted from report.**

19. *Task Force Proposal:* That the Department of Agriculture change its unit inspection of meat to a system based on scientific sampling and place increased emphasis on factors concerned with environmental sanitation; and

That similar principles and practices be applied to poultry.

Commission Action: **Omitted from report.**

HEALTH MANPOWER FOR PUBLIC SERVICE

20. *Task Force Proposal:* That the Doctor Draft law (Public Law 84, 83rd Cong.) not be extended or reenacted. Any legislation extending or reenacting the basic Selective Service law should provide that registrants under such law who are or become physicians or dentists be placed in categories separate from other registrants, and that separate levies be placed on the states for these categories.

21. *Task Force Proposal:* That the Assistant Secretary of Defense (Health and Medical), with the advice of the Federal Council of Health, establish ratios of physicians and dentists on active duty to each 1,000 active duty personnel; and that for the

present this ratio not exceed 3 physicians and 1.7 dentists for the three Armed Services taken together, though it may be different for each of the services.

Commission Action: **Language of Commission was less specific. Its recommendation was for "revision of Selective Service Act to effect maximum utilization of medical personnel."**

22. *Task Force Proposal:* That the Armed Services training programs for interns and residents, for other physicians and dentists on active duty, and for reserve officers not on active duty be strengthened, and be planned and directed from the medical center of each service, using selected military and civilian hospitals for special training.

Commission Action: **Recommended essentially as proposed.**

23. *Task Force Proposal:* That the Public Health Service Commissioned Corps be utilized more extensively as a central pool of professional health personnel to be detailed to other units of the Department of Health, Education, and Welfare and to other agencies to fill essential positions in the field of health.

Commission Action: **Omitted from report.**

24. *Task Force Proposal:* That within the Federal Government the transfer and cross-agency assignment of health personnel—including those in the military services, the Public Health Service Commissioned Corps, and the Veterans Administration's Department of Medicine and Surgery—be facilitated by appropriate changes in laws, regulations, and organizational policies and that some agency, presumably the proposed Federal Council of Health, reexamine the necessity for the several systems for health personnel.

Commission Action: **Recommended essentially as proposed.**

25. *Task Force Proposal:* That federal financial assistance be provided to schools of public health on the graduate level only:

(a) By block grants in amounts dependent upon the number of students graduating from the school and entering federal, state, and local government service or service of the government of another nation in the most recent previous five-year period, with such grants not exceeding the actual cost of education involved; and

(b) On a matching basis for capital outlays.

Commission Action: **Omitted from report.**

THE DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

26. *Task Force Proposal:* That the Department of Health, Education, and Welfare provide more leadership and assume more responsibility in planning and carrying out the programs of the Federal Government that relate to civilian health, exploring sound means within public policy of assisting the American people to improve their own health.

27. *Task Force Proposal:* That the present post of Special Assistant for Health and Medical Affairs to the Secretary of the Department of Health, Education, and Welfare be elevated to the post of Assistant Secretary for Health.

28. *Task Force Proposal:* That St. Elizabeth's Hospital be made a part of the Public Health Service hospital system.

29. *Task Force Proposal:* That the Children's Bureau be removed from the Social Security Administration and placed in an administrative position in the Department of Health, Education, and Welfare that will facilitate the major mission of the Bureau. This mission is to take cognizance of the needs of the whole child in the broad fields of health, education, and welfare, to support the necessary research in the field, and to stimulate the utilization of new knowledge by the various agencies of the Federal Government within and outside the Department of Health, Education, and Welfare and in the states.

30. *Task Force Proposal:* That Freedmen's Hospital and Howard University remain, for the present, under the general supervision of the Department of Health, Education, and Welfare and that the department exercise its influence to improve the facilities and operational standards of Freedmen's Hospital and Howard University's college of medicine, dentistry, and pharmacy, including a determination as to how the University and Freedmen's Hospital may be placed on an independent basis.

Commission Action **(on Proposals 26-30): Omitted from report.**

VETERANS ADMINISTRATION

31. *Task Force Proposal:* That the medical care functions of Veterans Administration regional offices be consolidated with, and, where practicable, physically located within nearby Veterans Administration hospitals.

Commission Action: **Recommended essentially as proposed.**

32. *Task Force Proposal:* That the Department of Medicine and Surgery of the Veterans Administration be given the responsibility and authority to establish and maintain:

(a) The medical criteria for disability, both initial and continuing, and

(b) A mechanism for more frequent review of disability allowances which recognizes the possibility of partial or complete rehabilitation from disability.

Commission Action: **Recommended essentially as proposed.**

DEFENSE DEPARTMENT

33. *Task Force Proposal:* That the Office of the Assistant Secretary of Defense (Health and Medical) be strengthened by:

(a) The establishment of a civilian position of Deputy Assistant Secretary of Defense (Health and Medical); and

(b) Augmentation of the technical and analytical staff of the Office of the Assistant Secretary of Defense (Health and Medical) to meet its increased responsibilities.

***Commission Action:* Omitted from report. (However, a civilian deputy to the Assistant Secretary was appointed recently.)**

34. *Task Force Proposal:* That the medical service of each of the military departments be given a position in the departmental organizational structure commensurate with its over-all responsibility for health and medical care, and that each of the Surgeons General be given reasonably comparable authority to include:

(a) Technical and management control (but not necessarily military control) of all medical activities and operations.

(b) Control of the assignment and activities of all medical service personnel, including enlisted personnel.

(c) Control of funds commensurate with his overall program and mission responsibility.

***Commission Action:* No recommendation. Discussed in text only.**

35. *Task Force Proposal:* That the medical and hospital services of the three Armed Forces be modified into a much more closely coordinated pattern which will provide that:

(a) The military medical and hospital services within continental United States be coordinated by assigning to a single military department the responsibility for hospital service in a defined geographic area and that this concept be furthered, wherever practicable, in extracontinental areas;

(b) Patients of all military departments requiring highly specialized medical care be concentrated into special hospitals, each of which will serve the three departments;

(c) Each of the three military departments maintain a medical center, the components of which should be a hospital, a center for postgraduate education in military medicine and a research institute occupied with medical problems identified with the primary mission of the department; and

(d) The Assistant Secretary of Defense (Health and Medical) be given authority to modify and reallocate medical care responsibilities of the three departments in line with the above.

***Commission Action:* Recommended essentially as proposed.**

ORGANIZATION FOR DISASTER

36. *Task Force Proposal:* That the Federal Civil Defense Administration be given greater statutory authority and financial support to plan, coordinate, and operate national, state, and local civil defense plans, and that its Health Office be elevated in organizational status to a position commensurate with its duties and responsibilities; and

That plans be made for the delegation of operational authority for directing emergency medical care during and immediately following an attack on continental United States to the Department of Defense, in close cooperation with the Department of Health, Education, and Welfare and Federal Civil Defense Administration.

***Commission Action:* Recommended that "the Federal Government . . . should include in its consideration of the problem the question of appropriate delegation of operational authority for directing medical care." The Commission did not mention any federal agency by name.**

Group Practice Under a Fictitious Name

FOLLOWING is an opinion of the Attorney General of California regarding the legality of the group practice of physicians under a fictitious name.

Opinion of Edmund G. Brown, Attorney General;
E. G. Funke, Assistant Attorney General
No. 54/10

MR. WALLACE W. THOMPSON, executive secretary of the Board of Medical Examiners of the State of California, has requested our interpretation of Business and Professions Code sections 2393 and 2429 with relation to the following specific questions:

1. May a group of persons, licensed as physicians and surgeons, form a partnership and practice medicine under a fictitious name?

2. May a group of persons, licensed as physicians and surgeons, form a partnership with other licentiates of the healing arts and practice under a fictitious name?

Our conclusions may be summarized as follows:

1. Physicians and surgeons may form a partnership and practice medicine under a fictitious name, provided the partnership name includes the surname of at least one partner followed by the words "Medical Group."

2. Physicians and surgeons may not form a partnership with other licentiates of the healing arts and practice under a fictitious name.

ANALYSIS

The Medical Practice Act (now found in chapter 5 of division 2 of the Business and Professions Code) formerly prohibited the practice of medicine by a physician and surgeon under any type of fictitious name. The State sought to give assurance to the general public that when a person called upon a physician and surgeon for professional advice, he would be reasonably assured of a doctor-patient relationship and would be further assured that none other than physicians and surgeons would treat him without his knowledge (see *Berry* v. *Alderson*, 59 Cal. App. 729, 732, 211 Pac. 836, 838; Anno. 54 A.L.R. 1504, 1513-1514; Anno. 82 A.L.R. 1184, 1186). The specific prohibition was found in Business and Professions Code section 2393 and such practice was denounced as a misdemeanor by section 2429. (Section references are to the Business and Professions Code unless otherwise indicated.) Cogent reasons, as we hereinafter set out, prompted the adoption of amendatory legislation in 1953 (Calif. Stats. 1953, ch. 1034).

Modern medical practice has tended more and more to specialize, which in turn leads to group practice. Particularly in the metropolitan centers one finds specialists such as internists, pathologists, obstetricians, pediatricians, gynecologists, urologists, neurologists and psychiatrists, closely associated with the general practitioner or the surgeon. The Legislature recognized that to continue the requirement that the names of all of the physicians and surgeons in a medical group be shown, and to prohibit the group being identified as a medical group, would make increasingly difficult and cumbersome the conducting of a group practice of medicine.

Many physicians and surgeons had sought to overcome this prohibition by organizing a private pay clinic under the provisions of the Clinic Act (Health and Safety Code sec. 1207, now repealed). This act permitted duly licensed members of the healing arts to practice under their respective licenses and under their own names in private pay clinics. However, the Clinic Act in itself did not then and does not now authorize the practice of medicine under a fictitious name; in fact, it does not relate to the practice of medicine as such. Therein are found direct prohibitions against interpreting any of its provisions as authorization to practice any of the healing arts. For example, Health and Safety Code section 1202 describes a clinic as a place where advice, diagnosis, treatment, medicines, etc., may be furnished to persons not residing or confined therein. There is no question that a licensed clinic is not authorized to practice medicine, for Health and Safety Code section 1205 (formerly section 1214) specifically provides that the act does not regulate, govern, or affect in any manner the practice of medicine, surgery, or osteopathy by any person duly licensed to engage in such practice, and further it does not repeal, alter, modify or affect *any act* defining or governing or regulating the practice of medicine, surgery, or osteopathy.

In order to crystallize the provisions of the law concerning the practice of medicine under a fictitious name, a revision and continuation of the Clinic Act, as well as an amendment to the sections of the Medical Practice Act relating to practice under a fictitious name was accomplished by the Legislature at its 1953 session. The Clinic Act was amended by prohibiting the issuing of new licenses to any group desiring to operate private pay clinics (Calif. Stats. 1953, ch. 1098, sec. 3) and the Medical Practice Act was amended by amending section 2393 (Calif. Stats. 1953, ch. 1034, sec. 1) to read as follows:

"The use of any fictitious, false or assumed name, or any name other than his own, by the holder of any certificate, either alone or in conjunction with a partnership group, in any sign or advertisement in connection with his practice or in any advertisement or announcement of his practice, or in any public announcement of his practice, constitutes unprofessional conduct within the meaning of this chapter. Holders of physician's and surgeon's certificates and holders of certificates to practice chiropody issued under this chapter may practice, within the scope of their respective certificates, in partnerships or groups of physicians and surgeons or of chiropodists, respectively; provided, that after September 30, 1953, no such partnership or group shall be formed or organized under any name except a name that includes the surname of one or more members of the partnership or group followed by the words 'Medical Group' or 'Chiropodist Group.' "

Thus, physicians and surgeons practicing as a medical group may not organize a private pay clinic. However, they may now practice in a group under a fictitious name in accordance with the express provisions of section 2393, authorizing physicians and surgeons to associate with each other (but not with licentiates of the healing arts carrying certificates authorizing practice other than as physicians and surgeons) and to use a fictitious name. Inferentially, it might be stated that this is also true in respect to chiropodists who receive their certificates to practice from the Board of Medical Examiners, except that they may only form a group or partnership with other licensed chiropodists and they will use the words "Chiropodist Group" rather than "Medical Group."

Many inquiries have been made to the Board of Medical Examiners as to whether a group of physicians and surgeons may practice under any fictitious name provided that such partnership was formed and said name was adopted prior to September 30, 1953. These inquiries are occasioned because of the insertion in section 2393 of the phrase "provided, that after September 30, 1953, no such partnership or group shall be formed or organized under any name except a name that includes the surname of one or more members of the partnership or group followed by the words 'Medical Group.' " Some have concluded therefrom that, after the effective date of the amendment (September 9, 1953) and prior to September 30, 1953, they would be permitted to form a partnership and to use any fictitious name they wished, provided that such partnership was formed and such name was actually in use prior to September 30. We must agree that insofar as this phrase is concerned, the section is rather inaptly worded. Nevertheless, we cannot read such permission into the quoted phrase. Nowhere therein is found an express exemption from the prior prohibition of the use of a fictitious name. The quoted provision itself issues no statutory permission to physicians and surgeons to use any type of fictitious name as long as it is adopted subsequent to the effective date of the amendment and prior to September 30, 1953. Further, the first paragraph of the section reiterates the former provisions and clearly expresses a prohibition against practice under any fictitious name, this prohibition being modified by the "subsequent to September 30" provision. One must conclude that statutory permission to use any fictitious name prior to September 30, 1953, is forbidden to physicians and surgeons by the well known doctrine of statutory construction that the mention of one thing excludes those not mentioned (*expressio unius est exclusio alterius*).

It is urged that the Clinic Act has heretofore permitted, and under the recent amendments permits, group practice under a fictitious name. As we have heretofore indicated, views contrary to those we express herein have been urged because of a belief that the operation of a clinic entails the practice of medicine. We cannot read such authorization into the Medical Practice Act through any provision found in the Clinic Act. In fact, the Clinic Act states with as much directness and forcefulness as possible that no modification is made of the Medical Practice Act (Health and Safety Code sec. 1205). A careful reading of the Clinic Act, and particularly Health and Safety Code sections 1202 and 1205, will quickly dispel such erroneous views.

Be that as it may, whatever doubt might have existed has now been completely removed since no longer is there any permission for the forming of new private pay clinics. Henceforth physicians and surgeons who are engaged in private practice cannot so engage under the guise of newly forming and operating a private pay clinic.

It is well to stress at this point that physicians and surgeons who may now be operating private pay clinics under the provisions of section 3 of chapter 1098 of the Statutes of 1953, should ever be alert to a separation of the actual clinic operation from their practice as physicians and surgeons. As to the latter, such practice must be conducted under the individual names of the physicians and surgeons as appearing on their certificates, or under a fictitious name of the type set forth in section 2393. Nor may any of the partners so practicing medicine under a fictitious name be other than physicians and surgeons with unrevoked or unsuspended certificates issued by the Board of Medical Examiners or the Board of Osteopathic Examiners.

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New, Effective, Non-Mercurial Oral Diuretic

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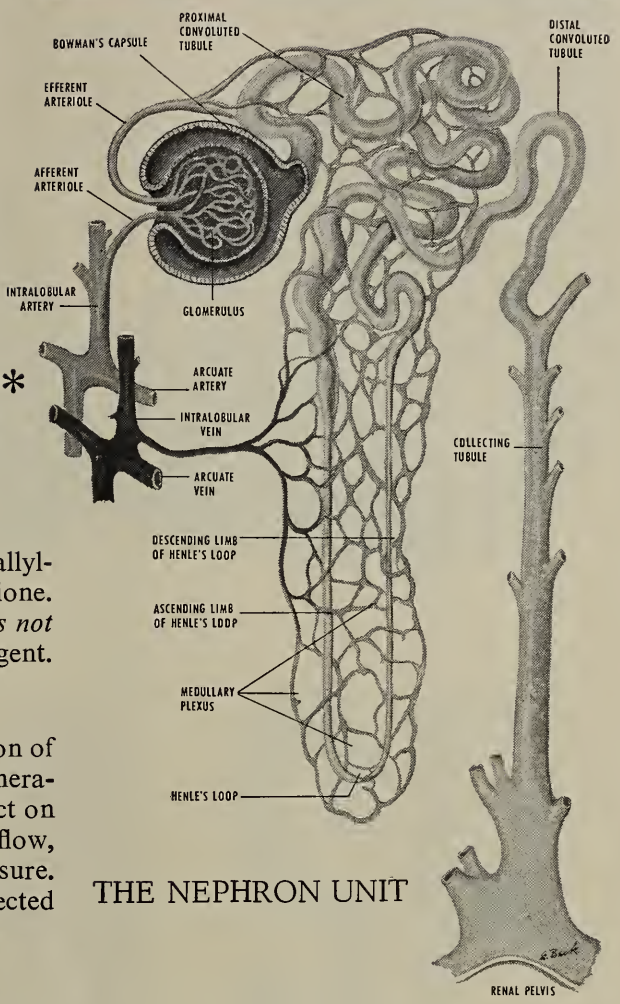
PROXIMAL CONVOLUTED TUBULE
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DISTAL CONVOLUTED TUBULE
EFFERENT ARTERIOLE
AFFERENT ARTERIOLE
INTRALOBULAR ARTERY
GLOMERULUS
ARCUATE ARTERY
INTRALOBULAR VEIN
ARCUATE VEIN
COLLECTING TUBULE
DESCENDING LIMB OF HENLE'S LOOP
ASCENDING LIMB OF HENLE'S LOOP
MEDULLARY PLEXUS
HENLE'S LOOP
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STRUCTURE

Mictine, brand of aminometramide, is l-allyl-3-ethyl-6-aminotetrahydropyrimidinedione. Mictine—result of years of research—*is not* a mercurial, xanthine or sulfonamide agent.

ACTION AND EFFECTIVENESS

Mictine is believed to inhibit reabsorption of sodium ions by the renal tubule. In therapeutic dosage it has not caused any effect on glomerular filtration rate, renal plasma flow, cardiac output, heart rate or blood pressure.

Approximately 70 per cent of unselected edematous patients respond to Mictine.

TOLERANCE

Mictine is without serious toxic effects as used. It has not produced any alteration in the blood or blood-forming organs or in renal or hepatic function. At times headache or gastrointestinal symptoms (anorexia or nausea but rarely vomiting or diarrhea) have occurred, however, these effects may be reduced to a minimum by giving Mictine on an interrupted dosage schedule.

ADMINISTRATION

Mictine is useful primarily in the *maintenance* of an edema-free state and in the *initial and continuing* control of patients in mild congestive failure. In such patients, dosage is one to four tablets daily *with meals*, in divided doses on an interrupted schedule. An interrupted dosage schedule may be accomplished by giving the drug on alternate days; or by its administration for three consecutive days and its omission for four consecutive days.

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Uncoated tablets of 200 mg. in bottles of 100.

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Each capsule contains:

ACHROMYCIN Tetracycline Lederle	250 mg.
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What It Costs a Physician to Give Free Medical Care

It has been generally known for a long time that physicians spend many an hour in clinics and hospitals and on calls for which they receive no payment and expect none. While the doctor deserves no medal for this, these unpaid bills and freely-given hours add up to lost income.

Few surveys or studies have ever been made to show approximately the dollar value of free medical care and treatment which physicians provide every day of the week in every state in the union.

Speaking before a New York State Medical Society Public Relations Conference a few years ago, Dr. James D. Tyner, Newark, N. J., estimated on the basis of a study he made that the average doctor spends 12 per cent of his working hours doing charity work.

Last month, the New Hampshire Medical Society came up with the best study yet on the subject of free medical care.

The society found in a survey conducted among general practitioners and specialists that somebody, somewhere in New Hampshire gets $4 worth of free medical care and treatment every minute.

The society places the annual value of this free medical care at $2,096,640. Or, to put it another way, the value of this free medical care is $40,320 per week or $5,760 every day.

In a news release about its study, the society said that "just about every practicing physician does some charity work. The scope of this depends upon the doctor's geographical location, the economic status of patients in his area, and the type of professional service rendered."

On the basis of its present active membership, the New Hampshire Medical Society credits the average doctor in the state with providing $3,425 worth of free medical care a year—slightly more than $65 weekly. That's the average.

For surgeons and specialists the free care—measured in terms of dollars and cents—would be substantially greater. Free surgery—that is, surgery for which the physician-surgeon receives no payment or performs the work at a reduced rate—may amount to $1,000 or more a month, the society study showed.

—*A.M.A. Secretary's Letter*

Researchers Study Men Who Seek Unusual Surgery

The way normal human beings get the sense of being male or female is not just a physical matter but is the result of a complicated mind-and-body process.

Research into the reasons why men seek "sex transformation" operations may shed some light on this process, two scientists reported today in a recent issue of the *Journal of the American Medical Association.*

They found that most of the men they studied, who had sought transforming surgery, were convinced that they were really women who accidentally had been given male bodies through a mistake of nature.

How they came to feel that way is not easy to explain, according to Frederic G. Worden, M.D., and James T. Marsh, Ph.D., from the department of psychiatry, school of medicine, University of California at Los Angeles. The five men they examined were all physically normal and showed no female characteristics. At first glance, they appeared to be "relatively well-adjusted persons, but, on closer inspection, it was found that they were quite disturbed in a number of areas . . ."

They said the men had no realistic idea of what a woman is like. Their typical idea was that a woman "is nothing more than a person who wears pretty feminine clothes and is admired for this." The notion of being a woman seemed to represent "the only way to win recognition, admiration, and acceptance." All of the men showed a desperate need for attention, and a feeling of being rejected and ignored.

They blamed "the stupidity and prejudice" of society for their difficulty in getting the surgery they wanted, and felt they were "the mistreated and misunderstood victims of the culture."

These men also showed unusual impatience and urgency about getting operations, and the researchers said it seemed that surgery was more "a desperate attempt at escape" from any sexual life than a means of achieving a female sexual life. All of them revealed intense sexual conflicts and showed a desire to avoid any kind of sexual feeling or experience. They had difficulty remembering much about their childhood except things which would prove their theories about really being women.

Although they showed many similarities, the men were very different in intellectual levels, sense of values, attitudes, interests, and economic and family backgrounds. The differences imply that such men are "unique individuals who are not all cast from the same mold," the researchers said.

The preliminary results of the study showed that this condition is probably not the result of any single cause, but is a complicated problem, and that men seeking such operations are struggling with "problems, conflicts, and resultant anxieties that are severe."

IN CONCEPTION CONTROL

prescription to fit the patient

No one method of conception control is applicable to all patients. For some, the "diaphragm-and-jelly" technic serves best, for others "jelly-alone" is adequate. Responsibility for selecting the more desirable of the two methods often rests solely with the physician. Not infrequently, if the patient is permitted to share in the decision, a higher degree of successful contraception will be attained.

From the physician's point of view: When the life and health of the patient depend upon prevention of pregnancy, the diaphragm-jelly method becomes first choice. If certain anatomic difficulties exist such as relaxed pelvic floor,[1,2] extensive cystocele,[1-3] extensive rectocele,[1-3] intact hymen,[3] short anterior vaginal wall,[2] third degree retroversion of the uterus,[2] acute anteflexion of the uterus[2] or complete prolapse,[3] proper placement of the diaphragm usually will not be feasible. Safer than jelly applied to an improperly fitting diaphragm is jelly-alone inserted into the vagina. Inability to learn the diaphragm technic also necessitates jelly-alone.

From the patient's point of view: The highly fertile multiparous patient who considers her family complete will seek the extra protection of a diaphragm. Women motivated by a morbid fear of pregnancy will prefer to reduce the risk of conception by using both a mechanical device and a spermaticide. Conversely, if there is no urgent need to avoid conception,[4,5] or if there is an unwillingness to use the diaphragm, jelly-alone will be the patient's choice because of its simplicity. Practical considerations, such as crowded living conditions or inaccessible toilet facilities may necessitate jelly-alone.

Dependability of each technic: Diaphragm-and-jelly offers the most dependable conception control,[1,3,6-8] with reliability of 95% to 98%.[6,7] Jelly-alone will provide a high degree of protection in nonparous women and in women of low parity.[4] Among 325 women who used jelly-alone (RAMSES Vaginal Jelly*) for 3 months to 3 years, the overall unplanned pregnancy rate was 16.7 per 100 patient-years of exposure. Over 35% of the women who become pregnant admitted negligence or failure to use the method properly. Thus the actual pregnancy rate was 10.82 per 100 patient-years of exposure.[4]

After the decision has been made: When the choice favors diaphragm-and-jelly, the RAMSES® "TUK-A-WAY"® kit is recommended. The RAMSES diaphragm is flexible and cushioned. It provides an optimum mechanical barrier with utmost comfort. In combination with RAMSES Jelly,* it offers an unsurpassed contraception technic. Where anatomical, psychological or economic factors indicate the use of jelly-alone, RAMSES Vaginal Jelly can be confidently prescribed. *Both products are accepted by the appropriate Councils of the American Medical Association.*

Bibliography: 1. Reich, W. J., and Nechtow, M. J.: Practical Gynecology, Philadelphia, J. B. Lippincott Co., 1950. 2. Tietze, C.; Lehfeldt, N., and Liebmann, H. G.: Am. J. Obst. & Gynec. 66:904, (Oct.) 1953. 3. Greenhill, J. P.: Office Gynecology, ed. 5, Chicago, The Year Book Publishers, Inc., 1948. 4. Finkelstein, R.; Guttmacher, A., and Goldberg, R.: Am. J. Obst. & Gynec. 63:664 (March) 1952. 5. Barnes, J.: Lancet 2:401 (Aug. 22) 1953. 6. Gamble, C. J.: Ann. New York Acad. Sc. 54:840, May 2, 1952. 7. Novak, E.: Textbook of Gynecology, ed. 3, Baltimore, The Williams and Wilkins Co., 1948. 8. Council on Pharmacy and Chemistry of the A.M.A.: New and Non-official Remedies for 1954, Philadelphia, J. B. Lippincott Co., 1954.

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Laboratory Reports Study on Tar, Nicotine in Cigarettes

It's not only the kind of cigarette you smoke but how short you smoke it.

This finding was reported today by the chemical laboratory of the American Medical Association, which made the last in a series of reports on cigarettes, cigarette smoke, and filters in a recent issue of the *Journal of the American Medical Association.*

If you're concerned about how much nicotine and tar gets to your mouth when you smoke, you almost have to have a chart in your hand. If you want the least amount, you'd do well to smoke a king size laminated asbestos-paper filter cigarette, but only if you put it out while the butt is about an inch and a half long. If you smoke it any shorter, you get more nicotine and tar than you do from a regular size.

Other filtered king-size cigarettes let a little more nicotine and tar through. A regular length no-filter brand screens out still less, but you can smoke it down to about an inch and get less nicotine and tar than if you smoke a king size right down to the filter. You'd be better off if you smoked even a non-filter king size and threw it away when it got to the inch-and-a-half stage. This means, the lab-

(Continued on Page 64)

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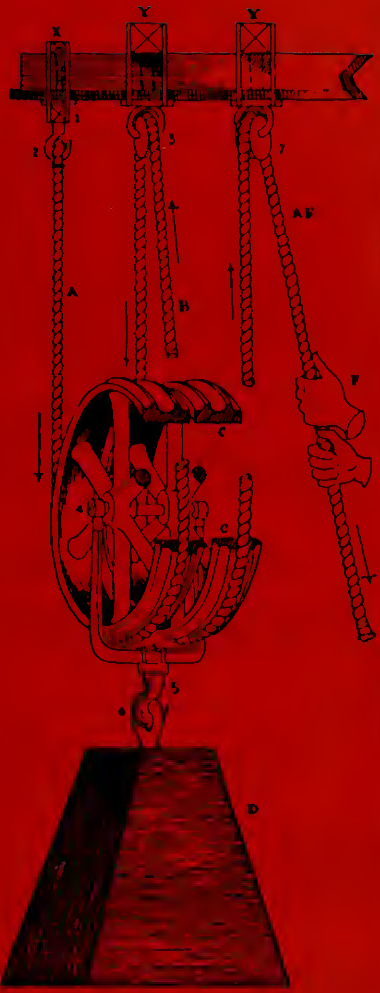

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SALCORT

Laboratory Reports Study on Tar, Nicotine in Cigarettes

(Continued from Page 60)

oratory said, that you can't get more protection and a longer smoke at the same time, in spite of what the advertisements say.

It doesn't seem to make much difference whether you smoke a regular cigarette or some filter tip kind, since tobacco itself is as good a filter as some of the tips. But a length of filter made from cellulose acetate fiber, asbestos-paper or activated charcoal with paper is a more efficient screener than the same length of tobacco at the end of a regular brand.

In earlier reports of the series, the chemical laboratory found:

1. A laminated asbestos-and-paper filter removes more nicotine and tars than other types, but most of the common types of filters allow as much or more nicotine and tars to reach the mouth than a regular unfiltered cigarette.
2. So-called "denicotinized" cigarettes, made from tobacco with lower nicotine content, allow less nicotine to reach the mouth than regular cigarettes, but have much heavier tar concentrations.
3. A cigarette holder using a cigarette as filter

(Continued on Page 68)

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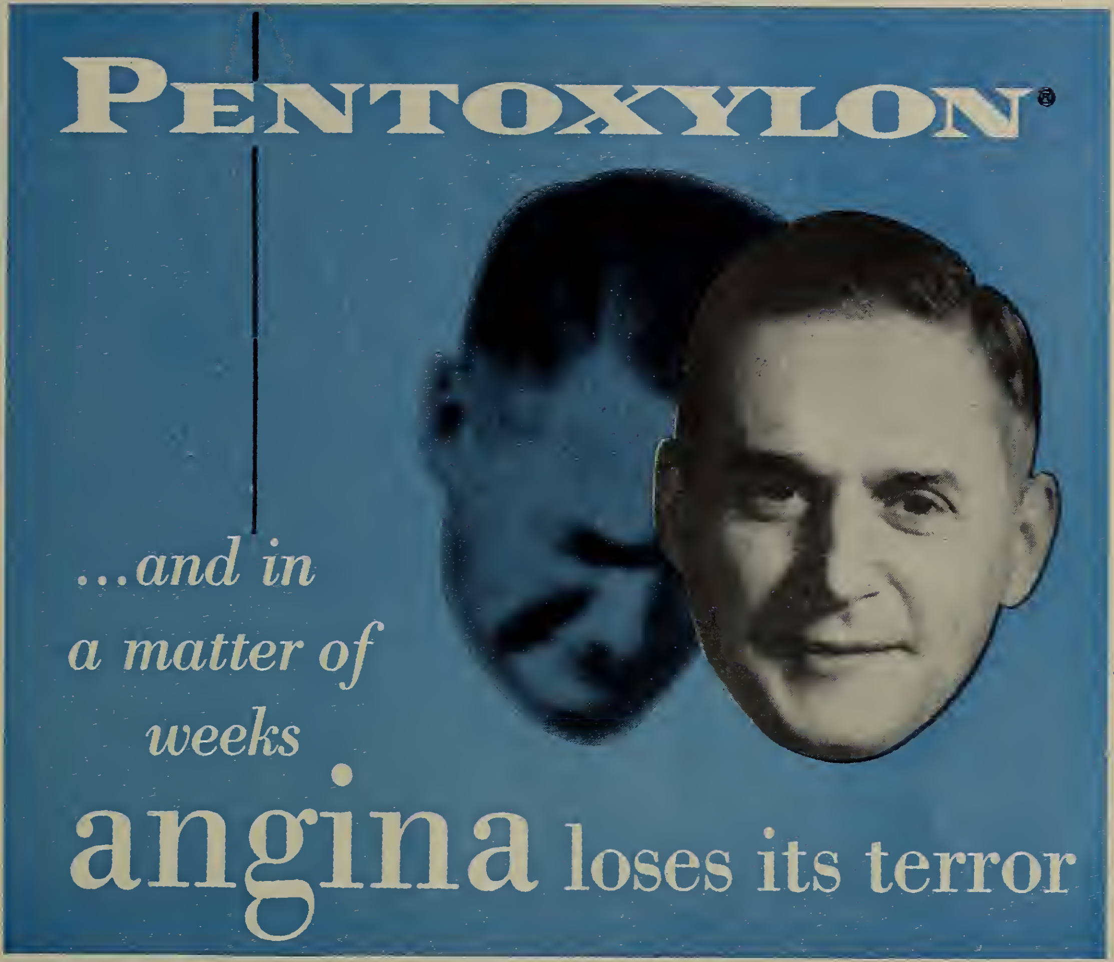

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Development of full effectiveness of Pentoxylon requires about 2 weeks of therapy, though benefits have been observed after 24 hours.

*Rauwiloid is the alseroxylon fraction of Rauwolfia serpentina, Benth.

Dosage: Initially, 1 tablet q.i.d. Available in bottles of 100 long-acting tablets.

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Laboratory Reports Study on Tar, Nicotine in Cigarettes

(Continued from Page 64)

is most effective, followed by a holder using a cylinder of silica crystals. Other holders studied appeared ineffective in screening nicotine and tar.

Here's the order in which the chemical lab placed the cigarettes tested, beginning with the one which allows the least amount of nicotine through to the mouth:

(1) Denicotinized brands; (2) cellulose acetate fiber filter; (3) activated charcoal with paper filter king size, and laminated asbestos-paper filter king size; (4) no-filter king size; (5) no-filter regulars; (6) cotton filters, and (7) two brands of no-filter regulars.

The list holds true only if you smoke king size cigarettes about two-thirds through. If you smoke them any shorter, they give you just as much or more nicotine and tar than a regular size. Some of the cigarettes change places in the list when it comes to tars. Here's the order for tar, beginning with the least amount:

(1) laminated asbestos-paper filter king size; (2) activated charcoal with paper king size; (3) cellulose acetate fiber, regular or king; (4) no-filter king size; (5) cotton filter; (6) some denicotinized brands; (7) no-filter regular length; (8) and other denicotinized brands.

Army Improves Inserts for Hearing Aids

Army researchers have developed a soft plastic ear insert which should be a big improvement in hearing aids, radio receiver headsets, and as a protection against excessive noise.

Major James P. Albrite, director of the audiology and speech correction center at Walter Reed Army Medical Center, Washington, D. C., described the new earpiece in a recent issue of *Archives of Otolaryngology,* published by the American Medical Association.

He said that while the ear insert is not commercially available yet, it "undoubtedly would find wide acceptance by the thousands of hearing aid users." He said it even might be used as protection against infection and pressure which trouble persons in underwater activities.

The soft plasticized material is poured into a cast made from a mold of the ear and its inner canal; then it is stamped with a sound channel and recess for a receiver. The whole process takes about two and one-half hours and causes no discomfort to the patient. About 1,300 inserts have been issued at the center and patients reported they are comfortable to wear.

In addition to greater comfort, the soft insert fits

(Continued on Page 72)

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Army Improves Inserts for Hearing Aids

(Continued from Page 68)

so well that it eliminates interference with sound reception, and reduces the danger of inner injury in case of a fall or blow.

The earpieces were used for radio communication by 25 flight officers with "satisfactory results," Dr. Albrite said, and they might replace the head-and-receiver now being used. The soft insert may overcome objections to hard ear defenders used by persons in noisy environments. The regular type of defender is almost always considered uncomfortable, and is difficult to fit. Further research is being done to suit the insert for this purpose and also for use underwater.

Dr. Aram Glorig, of the American Academy of Ophthalmology and Otolaryngology, suggested the soft insert. It was developed by Carl A. Nielson and Theodore J. Bushey, Army Prosthetics Research Laboratory, and Ransom L. Currens, of the Audiology and Speech Correction Center at Walter Reed.

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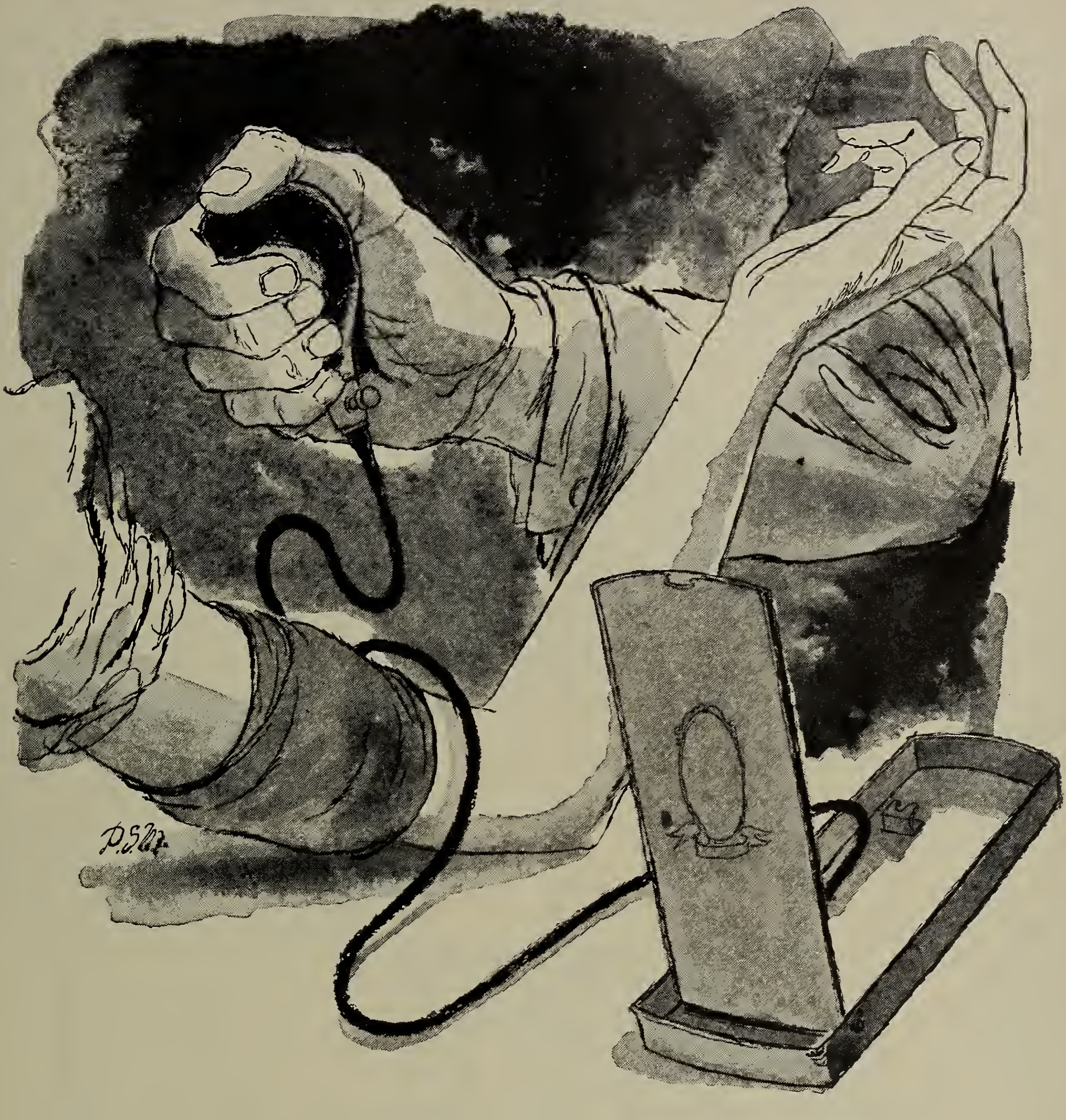

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Emotional Adjustment Affects Reactions To Drugs

Reactions to habit-forming drugs differ widely between well-balanced persons and those who are less emotionally stable. experiments show.

Socially adjusted persons with definite aims and good control of their emotions displayed "typical" reactions to drugs given experimentally. But moody, self-centered, immature, and insecure persons had almost the opposite reactions.

John M. von Felsinger, Ph.D., Louis Lasagna, M.D., and Henry K. Beecher, M.D., Harvard Medical School, made their second report on drug reactions in a recent issue of the *Journal of the American Medical Association.*

They gave several different drugs to a group of 20 healthy young college students. Most of the volunteers had about the same reactions to the drugs. They were stimulated and felt a sense of well-being after taking amphetamine (Benzedrine), but were depressed and sleepy from doses of morphine and heroin. They felt pleasant but sleepy after pentobarbital. Most of them said the last three drugs were "unpleasant."

A few, however, had opposite or "atypical" reactions to all of the drugs. These volunteers felt unpleasant after taking amphetamine, pleasant after taking heroin and morphine, and stimulated after pentobarbital. With a few exceptions, the nontypical group for each of the drugs was composed of the same persons.

The group having typical reactions were the most responsive persons when interviewed, "handling the situation easily and talking freely. They were soundly motivated and doing well in college work." The nontypical group showed "strong depressive trends and moodiness," frequently with unrealistic goals and ambitions. Interviews with them indicated they were likely to be self-centered, demanding, and impatient at delay in getting what they want. They were the most hostile and anxious of the entire group of volunteers.

The results of the experiments supported earlier theories that personality and situation may be important in an individual reaction to a drug. The researchers said results contradict the textbook descriptions of drugs as producing the same results in different persons.

They suggested that the sedating drugs probably seem pleasant to poorly-adjusted persons because they tend to reduce primary desires such as hunger, sex, and relief of pain. They also slow down inner mechanisms built up to satisfy real or imagined needs. Stimulating drugs have an unpleasant effect because they tend to exaggerate rather than dull these desires.

However, an unpleasant reaction may soon follow a pleasant one in poorly-adjusted persons. The re-

(Continued on Page 82)

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1. Hyman, S., and Rosenblum, S. H.: Illinois M. J. 104:257, 1953.
2. Piper, C. E., and Nicklas, F. W.: Indust. Med. 23:510, 1954

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Emotional Adjustment Affects Reactions To Drugs

(Continued from Page 78)

searchers said this is because the false feeling produced by the drugs is a threat to the personality's shaky balance, and results in "fear or panic."

A well-balanced person, they said, might handle a stimulating drug without disturbance and with a pleasant effect. Sedating drugs seem unpleasant to normal persons because they are "confusing" and interfere with normal functioning. They seem pleasant to the less balanced person because they bring an intermission from tension.

The researchers said their data may be useful in the problem of drug addiction. So far, they said, no study (including their own) has made it possible to predict reliably what effect drugs will have on individuals. However, their approach may make such a study more feasible, they said.

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Study Shows Age-Sequence Factors in Polio

Polio victims under 15 years old in families without other polio cases are much safer than persons over 15 in households where polio already has occurred.

Two New York City public health physicians reported in a recent issue of the *Journal of the American Medical Association* on a five-year city-wide survey which showed three significant facts:

(1) Case fatalities were higher in families with more than one patient; (2) this increase was limited to persons over 15 and was related to higher incidence of bulbar-type polio among older persons; and (3) vulnerability to polio in multiple-case households seemed to depend partly on the patient's age, whether he was the first in the family to get polio, and the outcome of the first case in the family.

Drs. Morris Siegel and Morris Greenberg said the reasons for more bulbar polio and higher fatality rates in older persons are not known. Except possibly for tonsillectomy, no factor has been definitely connected with the incidence of bulbar polio, the most serious type, which attacks the nervous system. Their study shows that age and sequence of cases in a family have an important bearing.

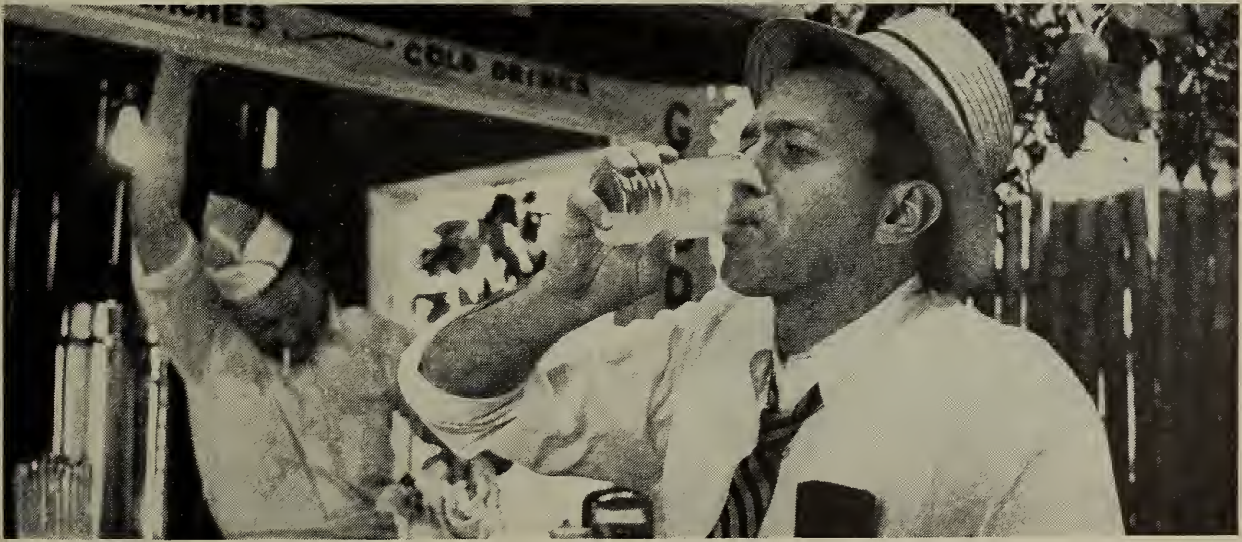
From 1949 through 1953 there were 5,563 cases and 321 deaths from polio in New York City, a fatality rate of 5.8 per cent. The case fatality increased with age. There was about a twofold difference between ages 0-4, and 5-14, and a twofold difference between ages 5-14 and 15 and over. The case fatality under 15 was about a third of that over 15. Based on previous history, the rate under 15 years was at the expected level, but over 15 it was 100 per cent higher than expected.

The overall fatality rate also differed between families with one case and those with more, an increase of about 45 per cent in multiple-case families.

These differences seemed to be related to bulbar incidence. Among younger persons, the bulbar rate was at the expected level. About 16 per cent of the younger victims had bulbar-type polio, regardless of the number of cases in the family. But over 15, bulbar incidence was higher for single cases and almost doubled for patients in multiple-case households. The fatality rate for bulbar polio in younger patients was about the same regardless of the number of cases. Over 15 years old, it was 50 per cent higher in multiple-case families than in single-case ones. This increase was limited to persons over 14 who developed the disease after it already had appeared in the family.

These increases also were related to the outcome of the first case in a family. The fatality rate among polio victims over 15 who were the first stricken was 37.5 per cent. The rate for over-15 cases after the

(Continued on Page 96)



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BOOKS RECEIVED

FLUOROSCOPY IN DIAGNOSTIC ROENTGENOLOGY. Otto Deutschberger, M.D., Assistant Clinical Professor of Radiology, New York Medical College. W. B. Saunders Company, Philadelphia, Pa., 1955. 771 pages, 888 illustrations on 523 figures, $22.00.

LUNG, THE—Clinical Physiology and Pulmonary Function Tests (Based on the 1954 Beaumont Lecture). Julius H. Comroe, Jr., M.D., Professor of Physiology and Pharmacology; Robert E. Forster, II, M.D., Associate Professor of Physiology; Arthur B. Dubois, M.D., Assistant Professor of Physiology; William A. Broscoe, M.D., Associate in Physiology; and Elizabeth Carlsen, A.B., Isaac Ott Fellow in Physiology; all from the Graduate School of Medicine, University of Pennsylvania. The Year Book Publishers, Inc., 200 East Illinois Street, Chicago, 1955. 219 pages, $5.50.

MEDICAL PROGRESS—1955—A Review of Medical Advances During 1954. Morris Fishbein, M.D., Editor. The Blakiston Division, McGraw-Hill Book Company, New York, 1955. 346 pages, $5.00.

MODERN TREATMENT YEARBOOK, 1955—A Yearbook of Diagnosis and Treatment for the General Practitioner. Edited by Sir Cecil Wakeley, Bt., K.B.E., C.B., LL.D., M.Ch., D.Sc., F.R.C.S., F.R.S.E., F.R.S.A., F.A.C.S., F.R.A.C.S., Fellow of King's College, London; Senior Surgeon, King's College Hospital. Published for the Medical Press by Bailliere, Tindall & Cox, Ltd. Distributed in U.S.A. by Williams and Wilkins Company, Baltimore, 1955. 344 pages, $6.00.

NEUROLOGY—3 vols.—2nd edition. S. A. Kinnier Wilson, M.A., M.D., D.Sc.(Edin.), F.R.C.P., formerly Physician, National Hospital, Queen Square; Senior Neurologist, King's College Hospital. Edited by A. Ninian Bruce, F.R.C.P.(Edin.), D.Sc.(Edin.), M.D., F.R.S.(Edin.), Lt.-Col. R.A.M.C., Consulting Physician, Bangour Mental Hospital and St. Andrew's Hospital, Hawick. The Williams and Wilkins Company, Baltimore, 1955. 2,060 pages, plus 99 pages of index, $37.50.

POMP AND PESTILENCE—Infectious Disease, Its Origins and Conquest. Ronald Hare, M.D., Professor of Bacteriology in the University of London at St. Thomas's Hospital Medical School, The Philosophical Library, Inc., New York, 1955. 224 pages, $5.75.

PRIMARY ANATOMY. H. A. Cates, M.B., Late Professor of Anatomy, University of Toronto, and J. V. Basmajian, M.D., Associate Professor of Anatomy, University of Toronto, The Williams and Wilkins Company, Baltimore, 1955. 339 pages, $5.75.

SHEARER'S MANUAL OF HUMAN DISSECTION—3rd edition. Edited by Charles E. Tobin, Ph.D., Associate Professor of Anatomy, University of Rochester School of Medicine and Dentistry, McGraw-Hill Book Company, Inc., 1955. 287 pages, $6.00.

SYNOPSIS OF MEDICINE—10th edition. Sir Henry Letherby Tidy, K.B.E., M.A., M.D., B.Ch.(Oxon), F.R.C.P.(Lond.), Extra Physician to Her Majesty the Queen, The Williams and Wilkins Company, Baltimore, 1954. 1253 pages, $7.50.

TEXTBOOK OF THE RHEUMATIC DISEASES—2nd ed. Edited by W. S. C. Copeman, O.B.E., M.D., F.R.C.P., Senior Physician, Arthur Stanley Institute of Rheumatic Diseases. E. & S. Livingstone, Ltd., London. Distributed in U.S.A. by Williams and Wilkins Company, Baltimore, 1955. 754 pages, 464 illustrations, $11.00.

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Doctors Identify "Cold-Like" Respiratory Disease

A summer-camp epidemic has led doctors to recognize a specific disease among the mass of illnesses known as "common cold" or "respiratory disease."

Five Bethesda, Md., physicians have described what they call "pharyngoconjunctival fever" in a recent issue of the *Journal of the American Medical Association*. They said they identified the disease as a specific type after observing 300 cases in a summer day camp, two residential neighborhoods, and scattered throughout the area.

A newly discovered virus, adenoidal-pharyngeal-conjunctival (APC) type 3, was found in 80 patients, and antibodies against the virus were found in practically every patient tested. This virus apparently is the cause of the illness.

Cases were easily traced from one patient to prior contact with other persons having the illness, the physicians said. Healthy carriers were certainly not so common in this case as they are in such diseases as polio and diphtheria.

Chief signs of the disease were fever, conjunctivitis, or sore throat. Headache, listlessness, and drowsiness toward the end of the fever period were common symptoms. There were few patients with cough, skin rashes, or muscle, bone, or joint aches such as are found in influenza.

The disease seemed to be highly infectious, since about 60 to 70 per cent of all children through nine years old who were exposed to it were attacked. The attack rate was lower at both extremes of age range. This might be accounted for partly by fewer opportunities for exposure among children at home, and more immunity among older persons.

While person-to-person contact seemed to be largely responsible for widespread outbreaks in the camp and the neighborhoods, swimming pools also may have been a factor. Conjunctivitis appeared more often among swimming pool users, and the youngest persons at the day camp, who did not use the pool, had lower rates of infection.

In one neighborhood, the incidence reached a peak soon after a new swimming pool was opened. The physicians said they thought the household was the most important place of spread, car pools next, and camp groups last, with the swimming pool a possible but indefinite factor.

They said the illness probably is a common, widespread respiratory disease. Although they made no studies on prevention and treatment, it appeared that various antibiotics used made little difference in the course of the disease. All of the patients recovered.

The report was made by Drs. Joseph A. Bell, Wallace P. Rowe, Joseph I. Engler, Robert H. Parrott, and Robert J. Huebner, from the U. S. Public Health Service, National Institutes of Health.

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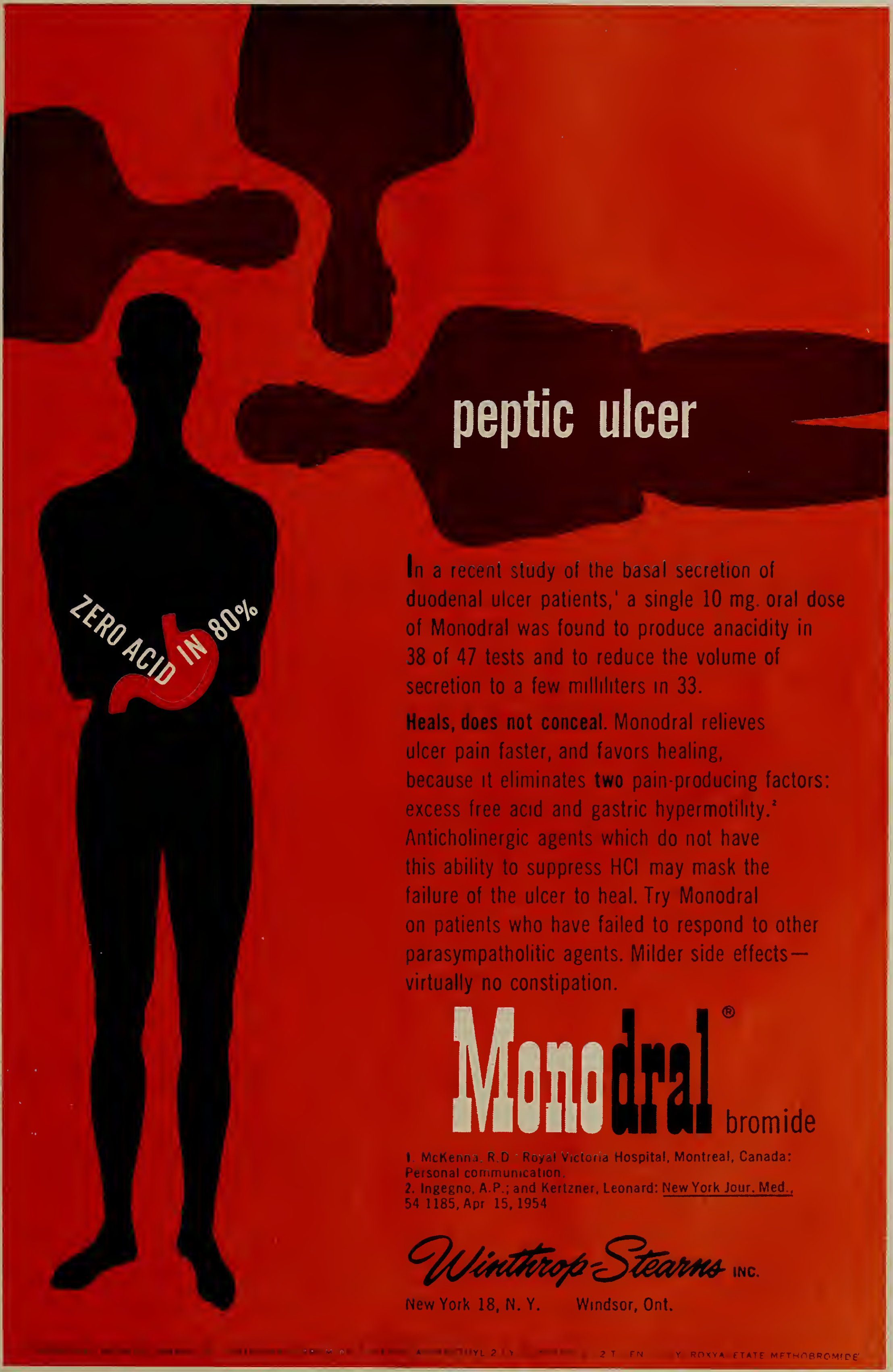

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1. McKenna, R.D.: Royal Victoria Hospital, Montreal, Canada: Personal communication.
2. Ingegno, A.P.; and Kertzner, Leonard: New York Jour. Med., 54 1185, Apr 15, 1954

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CORRECTION

"In my Letter [Secretary's Letter, American Medical Association, published in part in the April 1955 issue of California Medicine] the following statement was included in the discussion of the opinion of the Judicial Council in the case of Dr. Ben E. Landess: 'The whole case revolved around the claim that Dr. Landess was unethical because his name appeared in HIP advertising.'

"This statement is not a correct interpretation of the basic point involved in the Landess case. The question before the Judicial Council was whether Dr. Landess violated the principle of medical ethics pertaining to the solicitation of patients by advertising.

"In resolving this question, the Judicial Council stated in part:

" 'Since on the record before us HIP is organized and operates in accordance with law and may lawfully advertise, and since Dr. Landess had nothing to do with the preparation or distribution of the advertising, it is our opinion contrary to that of the state and county medical societies that the conduct of Dr. Landess does not violate the ethic relating to solicitation and advertising. . . .'

" 'We do not mean to imply by our decision in this appeal that a physician can ethically associate himself with an organization which is either unlawful or one which indulges in improper or unethical advertising, nor absolve himself from appropriate disciplinary action by complacence or indifference.' "

Study Shows Age-Sequence Factors in Polio

(Continued from Page 87)

first was 100 per cent. A few of these subsequent cases seemed to have been infected from the same source as the original case, but most of them seemed to have caught polio from the first victim in the family.

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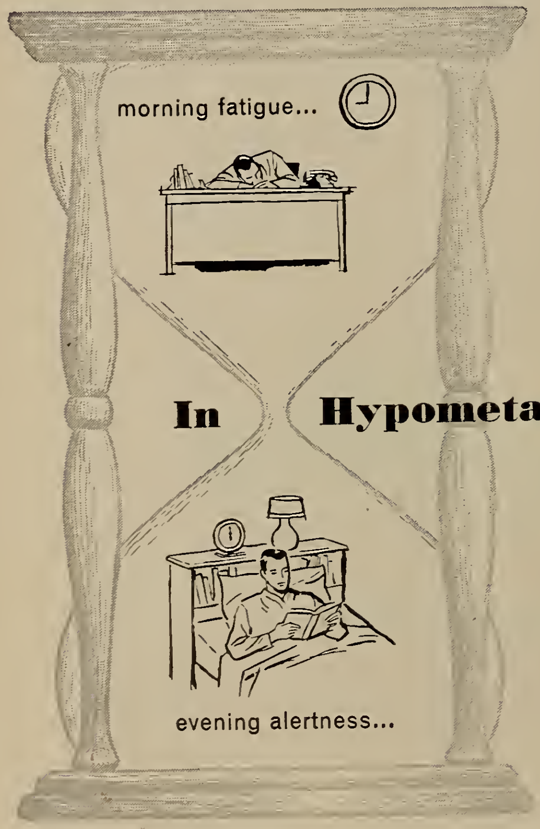
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(Watson, B. A.: N. Y. State J. Med. 54: 2049, 1954.)

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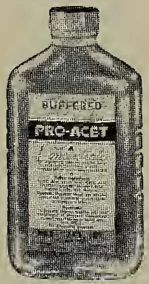

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1. Devoe, R. W., & Footer, W., California Medicine, 80:300 (1954).
2. Gershenfeld, Louis, and Milanick, Vera E., "Bactericidal and Bacteriostatic Properties of Surface Tension Depressants," Am. J. Pharm., 113:306.

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Secretary—Albert C. Daniels, 490 Post Street, San Francisco 2, EXbrook 2-1238.

Editor—Dwight L. Wilbur, 655 Sutter Street, San Francisco 2, ORdway 3-4080.

Executive Secretary—John Hunton, 450 Sutter Street, Room 2000, San Francisco 8, DOuglas 2-0062.

General Counsel—Peart, Baraty and Hassard, 111 Sutter Street, Room 1800, San Francisco 4, SUtter 1-0861.

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T. Eric Reynolds	Oakland	1955
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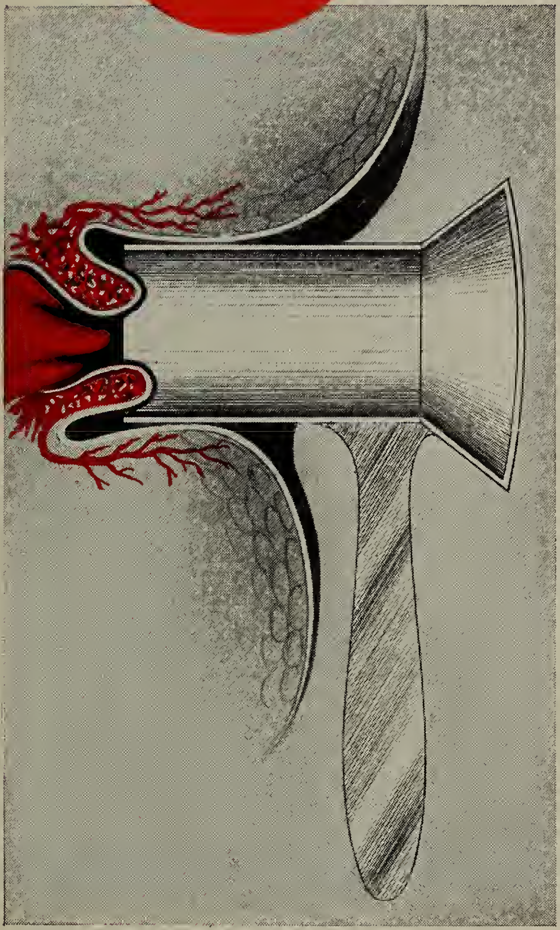

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ROSTER OF COUNTY MEDICAL SOCIETIES, CALIFORNIA MEDICAL ASSOCIATION

(County society secretaries are requested to notify California Medicine promptly when changes are indicated in their roster information.)

Alameda-Contra Costa Medical Assn., 6230 Claremont Avenue, Oakland 18. Meets Third Monday, 8:15 p.m., Hunter Hall, Oakland.

Pres., Harold P. Maloney, 411 30th St., Oakland.

Secy., Thomas Dozier, 512 5th St., Antioch.

Butte-Glenn Medical Society. Meets Fourth Thursday.

Pres., Frank O'Neill, 1334 Myers St., Oroville.

Secy., Phillip Morgans, 360 E. 1st St., Chico.

Fresno County Medical Society, 616 Security Bank Building, Fresno. Meets Second Tuesday, 6:30 p.m., Sunnyside Country Club.

Pres., Charles S. Mitchell, 1316 Olive Ave., Fresno.

Secy., William L. Argo, 1759 Fulton, Fresno.

Humboldt County Medical Society. Meets Second Thursday.

Pres., Shiras Jarvis, 730 7th St., Eureka.

Secy., Herman A. Iverson, 507 F St., Eureka.

Imperial County Medical Society. Meets Second Tuesday, 8 p.m., Pioneer Memorial Hospital, Brawley.

Pres., Edgar A. Thompson, Pioneer Memorial Hospital, Brawley.

Secy., Ernest Brock, 200 S. Imperial Ave., Imperial.

Inyo-Mono County Medical Society. Meets Fourth Tuesday except December, January, February.

Pres., C. L. Scott, 287 Academy, Bishop.

Secy., Robert W. Denton, 611 W. Line, Bishop.

Kern County Medical Society, 1300 Chester Avenue, Bakersfield. Meets Third Tuesday, 7:30 p.m., Stockdale Country Club except June, July, August.

Pres., J. M. Hayes, 2531 G St., Bakersfield.

Secy., John R. Almklov, 2441 G St., Bakersfield.

Kings County Medical Society. Meets Second Monday, 8:00 p.m., Legion Hall, Hanford.

Pres., Edwin E. Kerr, Van Sicklen Bldg., Hanford.

Secy., Howard A. Francis, Van Sicklen Bldg., Hanford.

Lassen-Plumas-Modoc County Medical Society. Meets on call.

Pres., Charles W. Brown, Western Pacific Hospital, Portola.

Secy., William B. McKnight, Quincy.

Los Angeles County Medical Assn., 1925 Wilshire Blvd., Los Angeles 57. Meets First and Third Thursdays, 1925 Wilshire Blvd., Los Angeles.

Pres., Ewing L. Turner, 1930 Wilshire Blvd., Los Angeles 57.

Secy., J. Norman O'Neill, 1930 Wilshire Blvd., Los Angeles 57.

Madera County Medical Society.

Pres., Gilbert G. Daggett, 500 E. Yosemite Ave., Madera.

Secy., Robert B. Rowe, 525 E. Yosemite Ave., Madera.

Marin County Medical Society, 711 "D" St., San Rafael. Meets Fourth Thursday of every month, 7:00 p.m.

Pres., C. W. Russell, 711 D St., San Rafael.

Secy., Wm. Burgett Smith, 711 D St., San Rafael.

Mendocino-Lake County Medical Society

Pres., Martin S. Barnes, 615 Main, Fort Bragg.

Secy., Neely E. Bradford, Box D, Boonville.

Merced County Medical Society. Meets Fourth Thursday Hotel Tioga, Merced.

Pres., Harry R. Maytum, 595 East 26th St., Merced.

Secy., Gerald D. Wood 544 West 25th St., Merced.

Monterey County Medical Society. Meets First Thursday.

Pres., Chester G. Moore, 484 S. Main St., Salinas.

Secy., Seymour Turner, 921 E. Alisal St., Salinas.

Napa County Medical Society. Meets Second Wednesday.

Pres., Wrenshall A. Oliver, Box "A," Imola.

Secy., Robert C. Ashley, 2560 Jefferson St., Napa.

Orange County Medical Association, 1226 N. Broadway, Santa Ana. Meets First Tuesday, 7:00 p.m.

Pres., Ralph E. White, 203 E. 8th St., Santa Ana.

Secy., Chad M. Harwood, 1202 N. Broadway, Santa Ana.

Placer-Nevada-Sierra County Medical Society. Meets every second Wednesday of each month.

Pres., D. M. Kindopp, 1130 Lincoln Way, Auburn.

Secy., T. J. Rossitto, 1166 High St., Auburn.

Riverside County Medical Association, 4241 Market Street, Riverside. Meets Second Monday, 8:00 p.m., El Loro Room, Mission Inn.

Pres., Van R. Hamilton, 6876 Magnolia Ave., Riverside.

Secy., Vean M. Stone, 4241 Market St., Riverside.

Sacramento Society for Medical Improvement, 2731 Capitol Ave., Sacramento. Meets Third Tuesday, 8:30 p.m., Sutter Hospital Auditorium.

Pres., Jack V. Chambers, 2100 Capitol Ave., Sacramento.

Secy., Charles E. Schoff, 1116 26th St., Sacramento.

San Benito County Medical Society. Meets First Thursday, Hazel Hawkins Memorial Hospital, Hollister.

Pres., E. C. Sheldon, 1610 Cienega Road, Hollister.

Secy., E. Nelson Moore, 1470 Buena Vista Road, Hollister.

San Bernardino County Medical Society. Meets First Tuesday, 8:00 p.m., San Bernardino County Charity Hospital.

Pres., H. R. Morris, 1595 "D" St., San Bernardino.

Secy., Carl M. Hadley, 315 Platt Bldg., San Bernardino.

San Diego County Medical Society, 101 Medical-Dental Bldg., San Diego 1. Meets Second Tuesday, Mission Valley Country Club, 950 West Camino Del Rio.

Pres., Ralph B. Mullenix, 3415 Sixth Ave., San Diego 3.

Secy., James I. Knott, 3712 30th St., San Diego 4.

San Francisco Medical Society, 250 Masonic Ave., San Francisco 18. Meets Second Tuesday, 8:15 p.m., 250 Masonic Ave., San Francisco 18.

Pres., Herbert C. Moffitt, Jr., 250 Masonic Ave., San Francisco 18.

Secy., Robert C. Combs, 250 Masonic Ave., San Francisco 18.

San Joaquin County Medical Society. Meets First Thursday, 8:15 p.m., 936 N. Commerce St., Stockton.

Pres., John F. Mayo, 310 W. Pine St., Lodi.

Secy. Frank A. McGuire, 305 Medico-Dental Bldg., Stockton.

San Luis Obispo County Medical Society. Meets Third Saturday, 7:00 p.m., Anderson Hotel, San Luis Obispo.

Pres., Emil C. Oberson, Marsh at Garden Sts., San Luis Obispo.

Secy., Tibor A. Beresky, 1304 Garden St., San Luis Obispo.

San Mateo County Medical Society, 122 Second Ave., San Mateo. Meets Third Tuesday of each month.

Pres., James S. Edwards, 36 N. San Mateo Dr., San Mateo.

Secy., Henry A. Brown, 77 N. San Mateo Dr., San Mateo.

Santa Barbara County Medical Society, 300 West Pueblo St., Santa Barbara. Meets Second Monday, Cottage Hospital.

Pres., J. Gary Campbell, 1525 State St., Santa Barbara.

Secy., A. E. Wentz, 300 West Pueblo St., Santa Barbara.

Santa Clara County Medical Society, 1024 The Alameda, San Jose 26. Meets Third Monday of every month.

Pres., Pierce C. Barrette, 634 E. Santa Clara St., San Jose.

Secy., Henry C. Dahleen, 652 E. Santa Clara St., San Jose.

Santa Cruz County Medical Society. Meets every Second month, Second Tuesday. Time, place to be announced.

Pres., H. S. Barr, 850 Main St., Watsonville.

Secy., Samuel B. Randall, 230 Walnut Ave., Santa Cruz.

Shasta County Medical Society. Meets First Monday.

Pres., Rex N. Carr, 2007 Pine St., Redding.

Secy., Roland Jantzen, 1726 Market St., Redding.

Siskiyou County Medical Society. Meets Sunday on call.

Pres., Werner F. Hoyt, Lassen Lane, Mt. Shasta.

Secy., Dragutin D. Todorovic, 224 Branstetter St., Dunsmuir.

Solano County Medical Society. Meets Second Tuesday, 8:00 p.m., at different meeting places.

Pres., Melvin A. Schmutz, 650 Tennessee St., Vallejo.

Secy., John C. Miller, 1000 Marin St., Vallejo.

Sonoma County Medical Society, 300 American Trust Bldg., Santa Rosa. Meets Second Thursday.

Pres., Robert S. Westphal, 3325 Chanate Road, Santa Rosa.

Secy., Frank E. Lones, 300 American Trust Bldg., Santa Rosa.

Stanislaus County Medical Society. Meets Third Thursday, 7 p.m., Hotel Hughson, Modesto.

Pres., Ivan E. Martin, 1628 I St., Modesto.

Secy., Robert W. Purvis, 709 - 18th St., Modesto.

Tehama County Medical Society. Meets at call of President.

Pres. Harve Wm. Jourdan, 410 Pine Street, Red Bluff.

Secy., Frank N. Townley, 304 East Solano, Corning.

Tulare County Medical Society.

Pres., J. J. McNearney, 140 N. M St., Tulare.

Secy., Gordon L. Jackson, P.O. Box 345, Terra Bella.

Ventura County Medical Society. Meets Second Tuesday, 7:15 p.m., Colonial House, Oxnard.

Pres., R. F. Robertson, 813 Yale, Santa Paula.

Secy., F. K. Helbling, 34 N. Ash St., Ventura.

Yolo County Medical Society. Meets First Wednesday.

Pres., Thomas Y. Cooper, 218 F St., Davis.

Secy., Neil D. Elzey, Woodland Clinic, Woodland.

Yuba-Sutter-Colusa County Medical Society. Meets Second Tuesday.

Pres., John F. Belz, 725 4th St., Marysville.

Secy. Robert I. Hodgin, 729 D St., Marysville.

(For roster of C.M.A. committees and other organizations, see last month's issue.)

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Unusual Condition Fails To Prevent Birth

A retired Army nurse is reported as being the first person known to have three babies in spite of a tumor rarely reported during pregnancy.

Drs. Leon Wallace, Los Angeles, and John D. McCrary, Omaha, both former Army officers, described the case in a recent issue of the *Journal of the American Medical Association.* They said there may be some relation between pregnancy and activity of the tumor, but the possible mechanism is unexplained.

The case also was interesting because symptoms of this tumor are easily confused with those of other diseases, they said. Their patient had symptoms like those of preeclampsia, a less unusual disorder associated with pregnancy. However, the Army physicians found in this case symptoms which distinguished the tumor from preeclampsia. They said these differences could help other physicians to correctly diagnose and remove these tumors, giving a better outlook for such patients.

The 27-year-old nurse had three successful pregnancies while believed to have preeclampsia. Later tests showed that she was actually suffering from a tumor of the inner portion of the adrenal gland. This portion of the gland produces epinephrine, one of the most powerful heart stimulants known. Removal of the tumor lessened high blood pressure, headaches, and other symptoms. The nurse later had another normal child.

Of the dozen or so other known cases of this type of tumor associated with pregnancy, almost all resulted in unsuccessful pregnancies.

New Uses for Chlorpromazine

Chlorpromazine, a drug already found helpful in calming overactive mental patients, now has been found useful in relieving hallucinations and other psychotic symptoms, and in treating emotionally maladjusted children.

Reports on the latest uses of the drug were made in a recent issue of the *Journal of the American Medical Association.* Previously the drug had been used to calm severely disturbed patients so they would be manageable under psychiatric treatment.

Dr. Douglas Goldman, Longview State Hospital, Cincinnati, said today that he treated 500 psychotic patients, many of them disturbed as a result of alcohol. Initial observations justify "a sense of optimism that has rarely resulted from the trial of new techniques in the treatment of psychotic states," he said.

Dr. Goldman said in addition to "marked quieting" of loudness and wild excitement among the patients, chlorpromazine (tradename: Thorazine) also relieved hallucinations, ideas of persecution, and inability to communicate. It eliminated or reduced the need for electroshock therapy and the necessity for restraint on severely disturbed patients.

In "states of excitement associated with the prolonged use of alcohol," the drug cut from weeks to a few days the time needed to stop hallucinations. Dr. Goldman said the drug is especially useful in managing long-term patients in state hospital situations. It works most dramatically on patients who have been psychotic for a short period. Some untoward effects occurred which could be managed by other treatment or by temporarily stopping chlorpromazine.

Dr. Robert L. Gatski, Danville, Pa., from the Governor Bacon Health Center at Delaware City, Del., said in his report that children who are noticeably aggressive, delinquent, and destructive are a difficult treatment problem because they are hard to reach through psychotherapy, guidance or environmental therapy.

He conducted a study in the use of chlorpromazine in a cottage-type residential treatment center for maladjusted children. Nine acutely disturbed boys from 6 to 13 years old were treated with the drug. All of them showed improvement within a week and continued to improve as long as treatment continued.

"They became calm, cooperative and more communicative," he said. "Their social behavior improved, and they became more amenable to cottage supervision."

The boys also finally established understanding with their therapists, which is necessary for successful psychiatric treatment. Dr. Gatski said the drug should be well-suited for use in maladjusted children living at home, since the cottage residents resisted taking the drug in front of other children, who said they were "crazy in the head to have to take pills."

Dr. Gatski said there are indications the drug can stop the "snowballing" effect of overactivity in maladjusted children.

Five Mayo Clinic physicians described four cases of jaundice caused by the drug. They said the jaundice was a type which could be treated by stopping the drug, restricting activity, and prescribing a high calorie diet with supplementary vitamins. They said there appeared to be no liver cell damage.

This report was made by Drs. Lawrence R. Loftus, Kenneth A. Huizenga, Maurice H. Stauffer, Howard P. Rome, and James C. Cain of Rochester.

The drug, originally developed in France, has been used in treating the symptoms of alcoholism, drug intoxication and withdrawal problems, bronchial asthma, delirium tremens, epilepsy, hiccups, high blood pressure, diseases of the circulation, Parkinson's disease, itching, seasickness, tension in psychotic states, and other diseases.

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Doctors Solve Problems Of Swallowed Objects

Children seem to be born with the desire and ability to "introduce foreign bodies of all types into their ears, noses, and throats"; doctors are constantly developing ways to get them out again.

New techniques plus antibiotics have reduced the need for surgical removal of pins, seeds, and other items, according to reports in a recent issue of *Archives of Otolaryngology*, published by the American Medical Association.

One of the first recorded cases of surgery of this kind was in 1620 when a physician removed nine coins swallowed by a 14-year-old boy about to be robbed of them. Since then, physicians have tried to find ways of avoiding surgery. It is sometimes dangerous and often difficult, partly because of the difference between the size of a surgeon's hand and the size of the usual abdominal incision in a child, according to Dr. A. J. Brizzolara, Little Rock, Ark.

He says that one new way of removing metallic objects is by a magnet. This was once difficult because available equipment was clumsy, but now a very small magnet on a string can be inserted into the throat and allowed to work its way down to a metallic object in the stomach or intestines, then withdrawn, pulling the object with it. Dr. Brizzolara described several successful removals of swallowed bobby pins by this method.

Now physicians also can give antibiotics to prevent infection, then wait and watch while the object passes naturally. An unusual case of this kind was reported by Dr. W. B. Finerman, Los Angeles. He treated a year-old boy who swallowed five open safety pins and at least 12 needles. He also swallowed a balloon given him at the hospital. The boy, who was in poor condition on entering the hospital, was given antibiotics, and almost all of the pins and needles eventually were eliminated naturally. Some had to be removed by surgery. Dr. Finerman said he knew of few cases where objects perforated internal tracts without serious after-effects, but this child left the hospital "a healthy, robust person." What is "most surprising" is the size and character of foreign bodies that pass safely. With antibiotics, Dr. Finerman said, foreign bodies except those in the windpipe and "voicebox" need not demand emergency extraction.

Sometimes, however, many objects do not pass naturally. Mechanical removal may be necessary when foreign bodies get into the air passages, according to Dr. Moshe Feinmesser, Jerusalem, Israel. If the object is not coughed up, it soon results in clogging of air passages, or "drowned lung." This can be arrested or delayed by antibiotics, but the foreign body still must be removed. Dr. Feinmesser described several cases of children who had watermelon seeds in the lungs, and others with various kinds of vegetal material. Antibiotics prevented infection but the material finally had to be removed.

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Physician Describes "Little Strokes"

One of the commonest diseases of man is that in which, over the course of 10 or 20 years, a person is "gradually pulled down" by dozens of "little strokes," Dr. Walter C. Alvarez stated recently.

The Chicago physician wrote in a recent issue of the *Journal of the American Medical Association* that the "little strokes" come from plugging of small arteries in the brain, and result in damage to brain tissue from the cutting off of circulation.

Onset of the disease possibly can be delayed by keeping the weight down and reducing the amount of cholesterol in the diet. People can recover after a little stroke, and some may go for 10 or 15 years in good health before having another.

An important factor is understanding on the part of the family, employers or partners, Dr. Alvarez said, since the disease can cause major changes in personality and ability.

The "little strokes" are not easy to diagnose, especially since the patient may confuse his symptoms with other diseases, such as ulcers or gallstones, and may neglect to tell his physician about an important incident which would reveal a history of "little strokes." However, he said the disease might be suspected whenever:

"(1) A man or woman past 38 or so has a mental and nervous disability that is out of all proportion to the little indigestion, abdominal, or thoracic pain complained of, (2) a nervous breakdown or a queer group of symptoms come suddenly on a certain day, and (3) one learns from the family that after a dizzy spell, blackout, or perhaps a fall, there came decided changes in character and perhaps an inability to work."

The "little stroke" may go unnoticed because the thrombosis (or "plugging" of an artery) in the brain may cause only a small shock, and may occur unknown during sleep. Frequently symptoms do not appear for some time afterward. A significant sign is a sudden change in character, such as that when "a previously kind, affectionate, gentle husband suddenly began to explode in anger over almost nothing."

Loss of work ability may be a sign which puzzles the patient and his employer, since even a complete physical checkup may reveal no apparent cause. Fear of being alone, loss of old interests and joy in life, visual trouble, pain, arthritis, "acute indigestion," burning and bad taste in the mouth, changes in writing, speaking, and ability to swallow, and falling down steps may be indications of "little strokes." Dr. Alvarez said he can make a diagnosis "as the man gets up out of the chair in the waiting room; he is so clumsy about it. I often make the diagnosis when I see how dull the man looks and how much older he is than his chronologic age."

There are several other symptoms of the disease,

(Continued on page 30)

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Physician Describes "Little Strokes"

(Continued from page 26)

but the physician needs information from the patient and his family about such incidents as falls or character change. Then the family's understanding is needed so they can be "more forgiving of the patient's cantankerousness or constant complaining."

"In many cases a man's employers or partners need to know quickly that he is never likely to work again. Then they can retire him with a pension," he said. "Often, when a man owns his own business, the family ought to know that he is not likely ever to be of any use in the office. They must then decide quickly what is to be done with the business and the people who work there."

Dr. Alvarez pointed out that there are helpful methods of treatment in some cases and that one "little stroke" does not necessarily result in disability. He said he "can tell patients that I have seen many persons go for 10 to 15 years in good health before another little stroke occurred."

He added that a patient "need not fear that a third stroke will kill: this is only an old folklore with no truth in it."

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Community Can Help Stop Rheumatic Fever

Community action in discovering and properly treating children with streptococcic sore throats can help prevent rheumatic fever. two Ohio physicians said recently.

Drs. William H. Bunn and Hugh N. Bennett. Youngstown, reported on a community program to prevent and control the disease, in a recent issue of the *Journal of the American Medical Association.*

Research has shown a relationship between streptococcic sore throats and later attacks of rheumatic fever. If streptococcic sore throats are adequately treated with penicillin the disease organisms can be eliminated and a first attack of the more serious disease prevented. It is important, however, that treatment be given before the first attack damages the heart. Detecting patients in this stage has been "a worrisome problem." the physicians said.

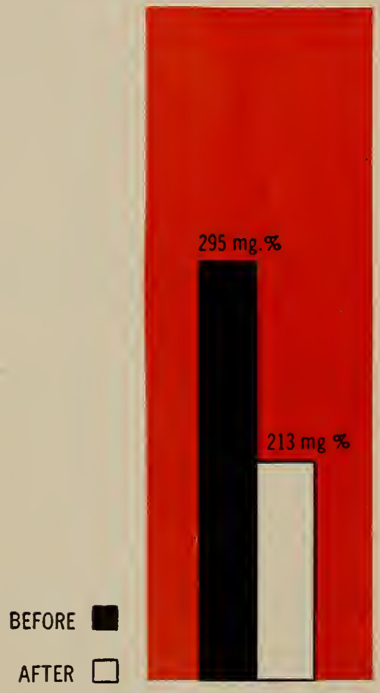
"A serious disease, responsible for a great deal of sickness, disability, economic loss, and death, can be prevented by an inexpensive drug, easily administered, if the patient can be detected," they said. While a community program is not the entire answer, it can help in alerting those concerned to the need for proper treatment.

The Youngstown Heart Association sponsored a community program of education in the dangers of sore throats and the need for proper treatment.

The educational program consisted largely of talks by association visiting nurses to principals, teachers, school nurses, and health chairmen of parent-teacher associations. All children were given considerable literature to take home to their parents, and those sent home with sore throats carried an explanatory note.

A selected group of children with sore throats were first tested, and those with danger signals sent home. Later the program was expanded and any child suspected of not feeling well or with a complaint of sore throat was sent to the school nurse. Those with suspicious symptoms or whose throat tests were positive for streptococci were sent home with a note urging proper treatment. A follow-up phone call was made to the mothers of these children.

"Rheumatic fever did not develop in any of the children in the group studied," the physicians said. Although the program has not actually proved how much rheumatic fever may have been prevented, they said they are "convinced that the prevention of first attacks of rheumatic fever is at least partly a community problem. . . . It is hoped that the experience here with this program, despite some obvious imperfections, will aid and be a stimulus to others interested in community control of rheumatic fever."



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1. *Albert, A., and Albert, M.: Texas State J. Med.* 50:*814 (Dec.) 1954.*
2. *Sherber, D.A., and Levites, M.M.: J.A.M.A.* 152:*682 (June 20) 1953.*

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(1) Payne, R. W.; Shetlar, M. R.; Farr, C. H.; Hellbaum, A. A., and Ishmael, W. K.: J. Lab. & Clin. Med. 45:331, 1955. (2) Bunim, J. J.; Williams, R. R., and Black, R. L.: J. Chron. Dis. 1:168, 1955. (3) Holbrook, W. P.: M. Clin. North America 39:405, 1955.

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Dr. John E. Connolly, San Francisco, described successful results of the new method among 40 patients, in a recent issue of the *Journal of the American Medical Association.*

After surgery, a tube is inserted into the wound, and the protruding end attached to an electric suction pump which removes accumulating fluid.

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Propane Exposure May Cause Frostbite

Severe frostbite can be caused by exposure to propane, a combustion engine fuel, two physicians recently warned.

In a letter published in a recent issue of the *Journal of the American Medical Association*, Drs. G. B. Hubbard and Leland M. Johnson, Jackson, Tenn., urged that users of propane fuel be told of this possible danger.

Propane, increasingly used by farmers in tractor engines, is stored as a liquid in a pressure tank. The physicians said that when pressure is released, propane changes from a liquid to a gas, producing a freezing temperature of 44 degrees below zero.

They reported on a case of a farmer whose hands were exposed to the gas for a few minues while he was fueling his tractor. Four fingers had to be amputated, and skin grafts applied although he was treated an hour after the accidental exposure. He was unable to use his hands and fingers when he left the hospital in spite of "continued efforts" to exercise them during a month's hospitalization.

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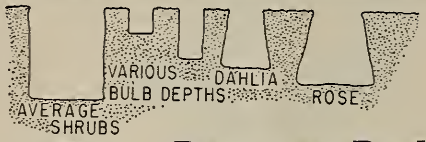

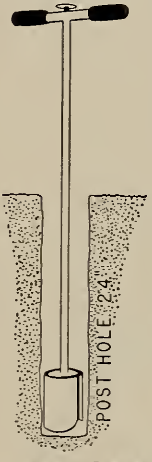

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General Surgery, Two Weeks, October 3
Gallbladder Surgery, Ten Hours, June 27, October 24
Thoracic Surgery, One Week, October 3
Esophageal Surgery, One Week, October 10
Fractures and Traumatic Surgery, Two Weeks, June 20, October 17

GYNECOLOGY—Vaginal Approach to Pelvic Surgery, One Week, June 6
Three-Week Combined Course Gynecology and Obstetrics, September 12

MEDICINE—Two-Week Course, September 26
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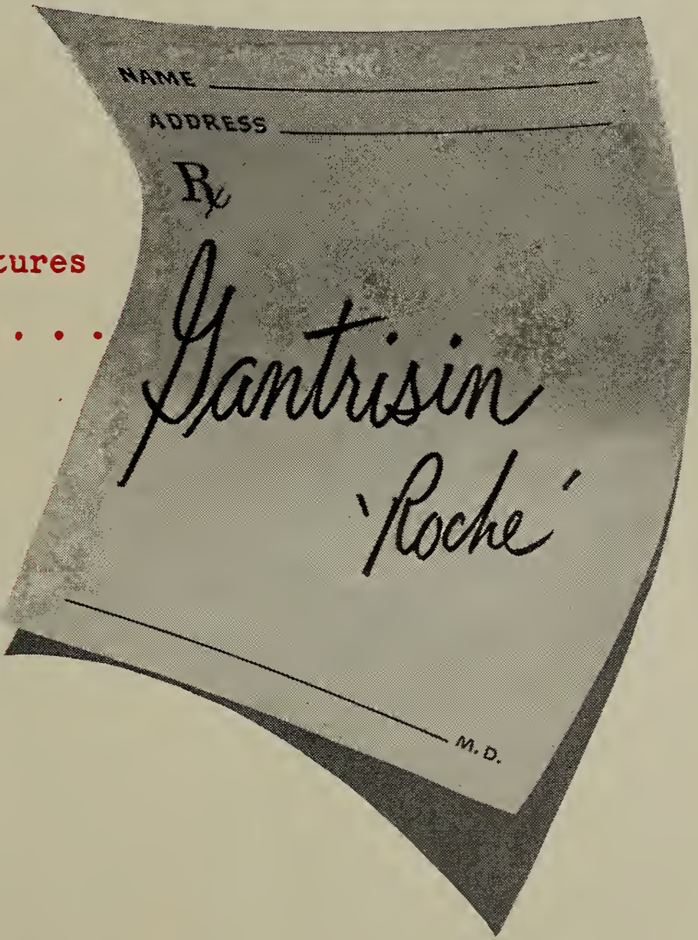

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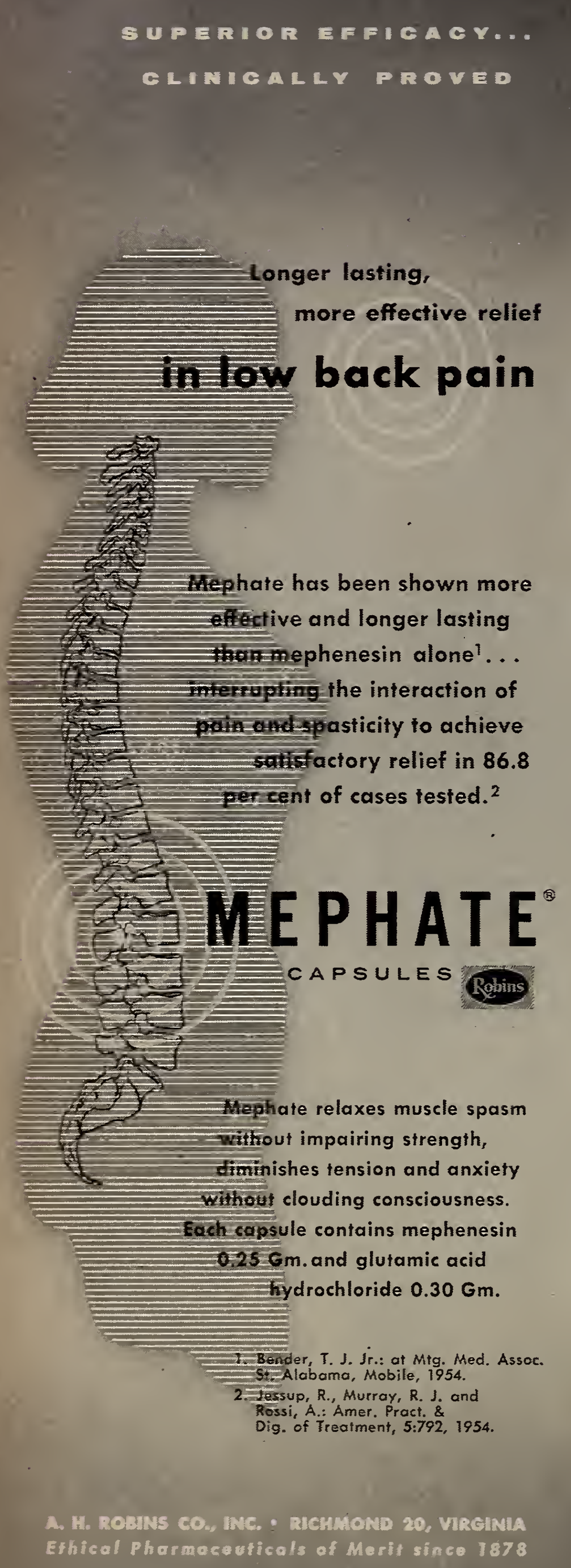

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1. Bender, T. J. Jr.: at Mtg. Med. Assoc. St. Alabama, Mobile, 1954.
2. Jessup, R., Murray, R. J. and Rossi, A.: Amer. Pract. & Dig. of Treatment, 5:792, 1954.

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"Pleasant" Effects of Narcotics Disproved

Some narcotics believed to produce pleasant stimulation just don't live up to their reputation under careful study, three Boston physicians say.

Much of the result of taking narcotics depends on the person and the situation, Drs. Louis Lasagna, John M. von Felsinger, and Henry K. Beecher, of Harvard Medical School and Massachusetts General Hospital, reported in a recent issue of the *Journal of the American Medical Association.*

They found that normal persons don't get much "kick" out of such well-known narcotics as morphine and heroin. On the contrary, normal volunteers felt sleepy, depressed, and generally unpleasant after taking experimental doses.

The physicians, seeking knowledge on the use of drugs as pain killers, tested several drugs on 80 volunteers. Twenty were healthy young men students, 30 were chronically ill, old, and hospitalized, and 30 were "postaddict" prisoners at the U. S. Public Health Service Hospital, Lexington, Ky.

None of the volunteers knew whether they were receiving amphetamine (Benzedrine), morphine, heroin, pentobarbital, or a "dummy" shot of salt solution. Their reactions were studied by check lists and by written descriptions of their feelings. The questionnaires covered thinking and concentration, mood, degree of wakefulness, and physical effects such as palpitation, nausea, or dizziness.

In normal persons, almost all the drugs proved depressing. The volunteers frequently complained of dizziness, itchiness, nausea, and shakiness. Even a narcotic which at first seemed pleasant later became depressing and unpleasant.

Amphetamine seemed to be most likely to produce pleasantness among the normal volunteers, and the physicians said it also appears to be a useful drug for the chronically ill. Many of the ill patients tested said their pain decreased and they felt "pleasant," largely because of "gratitude" for pain relief.

Results with prisoners who had been addicts or were undergoing treatment for addiction were very different. While most of the normal volunteers said their ability to think was dulled, the postaddicts said theirs was improved. But the physicians said many of the reactions by the postaddicts depended on previous experience, their attitude toward certain drugs, and the fact that they were in prison.

These results showed that there is no basis for "sweeping generalizations" as if drugs produced certain set effects in all persons at all times, the physicians said.

"It is obvious that the subjective effects of drugs, no less than the objective effects, are dependent on the situation in which the drug is administered," they said. "It is also likely that the production of a

(Continued on page 52)

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Water and Health in Mexico

Health in My Country (Mexico), F. Nescarza Martinez, *WHO Newsletter* 8(4) :3-4, April 1955. In Mexico the most frequent causes of death are enteritis and pneumonia. Each of these accounts for about ten times as many deaths as cancer, which comes tenth on their list (second in U. S.). Typhus killed two-thirds of the population in an epidemic 1567-1577, and again in 1736. The present typhus death rate is only 3 per million. The fight for better health is beginning to show results. By 1950 only 12 per cent of the five million dwellings were without a water supply and 40 per cent had water laid on. The Health and Welfare budget, exclusive of social security, has increased to about 8 per cent of federal allocations.

Mexico's Indian Problem, H. Romero Alvarez, *WHO Newsletter*, 8(4) :1-3, April 1955. Rural Mexico still has essentially an indigenous (Indian) culture. Agriculture is predominantly for subsistence (at the poverty level). "A whole family (may) depend on the produce from a single furrow." They cling to ancient customs. Water and its sources have

(Continued on page 52)

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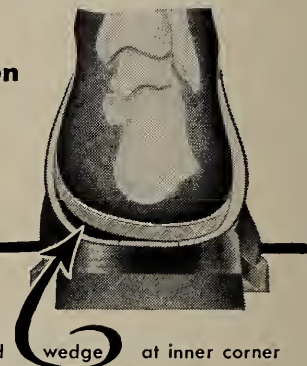

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1. Hyman, S., and Rosenblum, S. H.: Illinois M. J. 104:257, 1953.
2. Piper, C. E., and Nicklas, F. W. Indust. Med. 23:510, 1954

Each Percodan tablet contains: Dihydrohydroxycodeinone HCl, 4.5 mg.; Dihydrohydroxycodeinone terephthalate, 0.38 mg.; Homatropine terephthalate, 0.38 mg.; Aspirin, 224 mg.; Acetophenetidin, 160 mg.; Caffeine, 32 mg.

*U.S. Pat. 2,628,185

Sixth in a series of salutes to the pharmaceutical representative

RALPH L. BURGER, V.I.P.

To the doctor who practices in or around San Jose, it will probably come as no surprise to recognize Ralph Burger as this month's nominee for Boyle & Company's Very Important Person.

It is no accident that in just a few years Ralph has become one of Boyle's successful representatives contacting the medical profession. His two years of pre-pharmacy at the University of California and twelve years in the retail pharmacy business have fitted him well for his present career.

Possessed of confidence in his company and their products, Ralph enjoys his mission of keeping the doctors in his territory informed of new developments and improvements in Boyle & Company pharmaceuticals.

A native San Franciscan, Ralph has lived most of his life in the bay area, where outstanding records as a student and in extra-curricular activities won him two scholarships. He is a stamp collector, an ardent sports fan and a real active sort of guy.

With his wife and two daughters, Ralph now lives in the new El Rancho Del Rey section of San Jose. Socially popular, the Burgers are active in numerous fraternal and religious organizations.

When Ralph Burger . . . or the Boyle representative in *your* area calls on you, Doctor, you'll find him to be serious, concise and thorough in his presentation. He knows your time is limited, so he'll make his visit short and to the point. He'd like to discuss with you the products shown on the succeeding pages and will welcome any comments or questions you may have concerning them, or any Boyle product.

BOYLE

BOOKS RECEIVED

ANNUAL REVIEW OF MEDICINE—Vol. 6—1955. David A. Rytand, editor and John Anderson, Associate Editor, Stanford School of Medicine, Annual Reviews, Inc., Stanford, Calif., 1955. 459 pages, $7.00.

BEHAVIOR OF PULMONARY TUBERCULOUS LESIONS, THE—A Pathological Study. E. M. Medlar, M.D., Chief Pathologist, Division of Tuberculosis, New York State Department of Health. The American Review of Tuberculosis and Pulmonary Diseases, March, 1955.

CARDIAC EMERGENCIES AND HEART FAILURE—Prevention and Treatment—2nd ed. Arthur M. Master, M.D,. cardiologist, Mount Sinai Hospital, New York, associate clinical professor of medicine, College of Physicians and Surgeons, Columbia; Marvin Moser, M.D., assistant physician in medicine, Montefiore Hospital; and Harry L. Jaffe, M.D., assistant attending physician, Cardiology, Mount Sinai Hospital, New York. Lea & Febiger, Philadelphia, 1955. 203 pages, $3.75.

CARE OF YOUR SKIN, THE. Herbert Lawrence, M.D. Little, Brown and Company, Boston, 1955, $2.50.

CASIMIR FUNK—Pioneer in Vitamins and Hormones. Benjamin Harrow. Dodd, Mead & Company, New York, N. Y., 1955. 209 pages, $4.00.

DEMONSTRATIONS OF PHYSICAL SIGNS IN CLINICAL SURGERY—12th ed. Hamilton Bailey, F.R.C.S. (Eng.), F.A.C.S., F.R.S.E., Emeritus Surgeon, Royal Northern Hospital, London. Assisted by Allan Clain, M.B.(Cape Town), F.R.C.S.(Eng.), Senior Surgical Registrar, Royal Cancer Hospital, London. The Williams and Wilkins Company, Baltimore, 1954. 456 pages, $8.00.

DIFFERENTIAL DIAGNOSIS OF INTERNAL DISEASES—Clinical Analysis and Synthesis of Symptoms and Signs on Pathophysiologic Basis—2nd rev. ed. Julius Bauer, M.D., F.A.C.P., Clinical Professor of Medicine, College of Medical Evangelists, Los Angeles, Grune & Stratton, New York, 1955. 987 pages, $15.00.

GROVES' SYNOPSIS OF SURGERY—14th ed. Edited by Sir Cecil Wakeley, Bt., K.B.E., C.B., LL.D., M.Ch., D.Sc., F.R.C.S., F.R.S.E., F.A.C.S., F.R.A.C.S., The Williams and Wilkins Company, Baltimore, 1954. 651 pages, $7.00.

HEART DISEASE—Its Diagnosis and Treatment—2nd ed. Emanuel Goldberger, M.D., F.A.C.P., Associate Attending Physician, Montefiore Hospital, New York. Lea & Febiger, Philadelphia, 1955. 781 pages, $12.50.

MANAGEMENT OF ADDICTIONS. Edward Podolsky, M.D., editor. Philosophical Library, New York, 1955. 413 pages, $7.50.

MANAGEMENT OF OBSTETRIC DIFFICULTIES, THE—5th ed. Paul Titus, M.D., revised by J. Robert Willson, M.D., M.S., Professor of Obstetrics and Gynecology, Temple University School of Medicine, the C. V. Mosby Company, St. Louis, 1955. 737 pages, 348 illustrations, one color plate, $12.50.

MOTO-KINESTHETIC SPEECH TRAINING. Edna Hill Young and Sara Stinchfield Hawk, Stanford University Press, Stanford, California, 1955. 176 pages, $5.00.

PATHOLOGY. Peter A. Herbut, M.D., Professor of Pathology, Jefferson Medical College and Director of Clinical Laboratories, Jefferson Medical College Hospital. 1227 pages, 651 figures, 6 color plates, $16.00.

PRACTICAL ENDOCRINOLOGY. Lewis M. Hurxthal, M.D., Head of Department of Internal Medicine, Lahey Clinic. Landsberger Medical Books, Inc., distributed solely by The Blakiston Division of the McGraw-Hill Book Co., New York, 1955. 318 pages, $7.00.

SURGERY OF THE ALIMENTARY TRACT (Bickman-Callander)—Vols. I, II and III. Richard T. Shackelford, M.D., Assistant Professor of Surgery, Johns Hopkins University School of Medicine; assisted by Hammond J. Dugan, M.D., Assistant in Surgery, Johns Hopkins University School of Medicine. W. B. Saunders Company, Philadelphia, 1955. 2575 pages, 1705 illustrations, 89 pages of index, $60.00.

Has Wine a Place in Your Practice?

Recent physiological and clinical research confirms its adjunctive value in the diet of many patients

THE WIDE recommendation of wine as a gentle and pleasant stimulus to appetite, digestion, and the full enjoyment of a meal, has a sound basis in the findings of controlled research.

Results of some recent studies* are the following:

Influence of Wine on Appetite—Two wineglassfuls of 20 per cent alcohol (the concentration in the usual appetizer or dessert wine) have been found to relieve prolonged gastric tension. Two or three ounces of dry table wine can markedly increase the olfactory acuity and the appetite in anorexia, and stimulate caloric intake.

The Buffer Action of Wine in Digestion—The effect of wine on free and total gastric acidity is slower and more prolonged than that of plain alcohol. Because of the buffering action of its phosphates, organic acids and tannins, wine induces a less violent but more sustained increase in gastric secretion and gastric motility.

Wine Stimulates the Flow of Pepsin—Ingestion of moderate amounts of wine, notably white table wine, has been found to increase appreciably not only the volume but the proteolytic power of gastric juice.

Wine in the Diet of Oldsters and Convalescents—There are sound, physiological reasons, therefore, why the generally lax and achlorhydric stomach of older people and convalescents reacts favorably to the mild, secretory stimulation of wine taken at mealtimes. And wine offers other valuable vasodilating, soothing, relaxing effects . . . a little Port or sherry wine at bedtime is a valuable aid to normal sleep, and may obviate the need for sedative medication.

Wine to Brighten the Monotonous Diet—In the dull and often unappealing dietary regimen of many patients, a glass of wine can frequently provide a touch of interest and "elegance"—a psychological boost of inestimable value.

The Fine Wines of California—Wines of outstanding quality are coming from California nowadays. Somewhere in the rich soils of the State, each grape variety finds its ideal setting and comes to perfect ripeness each year. Just as essential, modern scientific methods result in wines of controlled quality standards, true to type—and what is highly important from your patient's standpoint—moderate in price. Wine Advisory Board, San Francisco 3, California.

*Research information on wine is available upon request.

"Pleasant" Effects of Narcotics Disproved

(Continued from page 42)

given mental state, even in the same situation, will not prove equally pleasant to all persons."

As a result, the reactions to the experiment did not always agree with textbook descriptions of drug effects. Fact-finding on the medical usefulness of drugs is made more difficult, and predicting possible addition by old or new drugs is complicated, by several factors. These include the difference between addict and nonaddict reactions, the social problem of using normal volunteers for tests, and the psychological difference between taking drugs as medicine and taking them illegally. However, in a controlled experiment "meaningful data" can be obtained.

Much further research and a "more sophisticated and scientific approach" is needed, the physicians said. They also advised careful distinction between law enforcement problems in illicit narcotic traffic and safeguards in the legitimate use of drugs.

Water and Health in Mexico

(Continued from page 46)

a religious value and some religious rites are unhygienic, like washing the saints' clothing in the source. Social and engineering problems of safe water supply are slowly being solved. Author thinks the custom of community task force, unpaid, to do public works will have to be replaced by paid employment before really effective development will be possible.

R. R. Newell, M.D.

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Medical Care

Leadership Supplied by a Medical Association

ARLO A. MORRISON, *M.D.*, Ventura

It has long been agreed that our great profession best serves the public when it is free, unfettered and unregimented.

First as your president-elect and then your president, I have just completed a two-year tour of duty in support of the principles of *medical freedom*—two years that have been the most gratifying, most rewarding in my entire medical career.

During this period I have met with the officers and members of every one of our 40 component county societies and have learned anew that, regardless of geography in our great commonwealth, you find high standards of medical care. And, you find men and women eager to cooperate in the solution of our mutual problems.

If I were called upon for a definition of our organization in a single sentence, I think I might say:

"On the professional side as well as on the newer front of medical economics, the California Medical Association is a proven progressive organization devoted to the welfare of the citizens of our state."

Our many activities substantiate the definition. Our accomplishments give it real meaning.

For example:

Our Blood Bank Commission, after years of struggle and sacrifice, has been instrumental in establishing a chain of professionally-managed blood banks which serve most of California. This accomplishment has taken intelligent medical direction plus money—your money. Californians today would not have the medical security that these banks afford had not the profession advanced many thousands of dollars of credit to provide the necessary physical facilities throughout the state.

Your Cancer Commission continues its search for a cure of this dread disease on the one hand while standing guard over the public's health in its daring to expose quackery on the other.

The Committee on Scientific Work and the Committee on Postgraduate Activities have completed a highly successful year in helping all of us keep stride with the advances of modern medicine.

Your Committee on Public Policy and Legislation has served both the profession and the public in furthering measures in the interest of sound health policies and opposing those schemes—no matter how high-sounding the titles—which are unsound and endanger us all.

The Medical Services Commission has spent countless hours in exploring all types of medical care plans. The committee members, in their service to the profession, have met with leaders in management and labor; insurance and hospital executives and others.

In answer to a growing need, leaders of your profession have participated in such self-explanatory conferences as "Physicians and Schools" and "Rural Health."

Address of the President: Presented before the First Meeting of the House of Delegates at the 84th Annual Session of the California Medical Association, San Francisco, May 1-4, 1955.

Results have been most fruitful if for no other reason than, by our actions, we have shown our willingness to discuss mutual medical problems and projects with equally sincere groups.

Activity generated at the state level is already reaping benefits at the action level—the community level.

A public that is aware of our professional dedication to health protection cannot but respect our sincerity and our integrity as we approach the problems revolving around medical economics—medical care insurance.

To me, health insurance has always meant that a group of people contract to pay agreed shares into a common fund.

Money is then taken out of the fund in specified amounts to take care of the illnesses or accidents which may befall the unfortunate.

The fortunate members, strictly speaking, are those who were not incapacitated by unpredictable sickness or accident.

We insure against the unpredictable.

So-called "comprehensive coverage" does not fall in the realm of the unpredictable. It covers everything. Comprehensive coverage is bookkeeping and not insurance. It means simply that *all the members* in a given group, by contract, propose to pay *all the costs*—all the medical care bills of all the members, plus brokerage charges.

Currently in many segments of our society we find a dual clamor in regard to medical care. One is for "comprehensive coverage" and the other, tritely phrased, is for care "at a cost the subscriber to the plan can afford to pay."

It is my opinion, after many years' experience in C.M.A. and California Physicians' Service affairs, that if high medical standards are to be maintained; if the cost is to be reasonable, the profession and leaders in the insurance industry must place renewed emphasis in the education of purchasers of medical care to explain that *you simply cannot* have both.

To try to wrap up "comprehensive" and "low cost" in one package will mean that the string you use to tie it together will be labeled "mediocre medicine."

In the field of "things to be done in the future," I believe we should take the lead in offering a workable deductible plan of medical care coverage that puts the insurance emphasis on the catastrophic—*real coverage* when there is a *real need*—and deemphasizes the minor ailments encompassed in the "comprehensive" philosophy.

Once we produce a clearly understood explanation of the actual savings a family would make through the purchase of protection of a deductible plan; once we have a large number of subscribers covered by such a plan, then indeed, I believe, we will have attained the goal of low cost coverage and we will not have jeopardized medical care standards.

It was not such high sounding phrases as "economic forces," but only simple arithmetic that brought about our acceptance of deductible automobile insurance. It is my prediction that common sense will bring the same eventual product for medical care insurance.

So much for the future. We are faced with more immediate problems—decisions to be made as to the course C.P.S. shall take.

Before going further on C.P.S., let me make a few observations regarding panel practice.

Legally, panel practice is here to stay. It cannot be attacked on that score. Legislatively, I believe the only approach should be to make certain that, in the interest of public protection, the panel practitioners deliver the services they promise the public—and deliver them 24 hours a day. When this is not done, we've already found, all of us are blamed.

Medically, panels will remain with us until we develop a more desirable product. Generally speaking, I believe we have the product. It is the tool every physician has—the tool he uses every day in seeing every patient. That tool is not the care *of* the patient, for that probably can be delivered through corporation medicine. The real tool is caring *for* the patient. Only the personal physician—surely not a corporation—can deliver that type of medical service.

Meanwhile, if we are to practice our profession as we have in the past, it is obvious that we must stress the value of the concept of *caring for the patient* by the personal physician.

And that, in the light of the growing number of families availing themselves of prepaid medical care through group enrollments, can best be accomplished by providing California Physicians' Service with competitive contracts.

As facts and other data have been gathered and assembled for use in recommending a continuous program in the development and growth of C.P.S.-Blue Shield, it has become increasingly apparent that it is necessary to specifically define growth objectives.

C.P.S.-Blue Shield has now passed through the stages of infancy and adolescence, where decisions and policies were made from day to day and actions taken in terms of the immediately expedient. It is now into the stage of maturity, where further growth and development should follow a plotted course to a planned result in so far as this is possible in a time of rapid social and economic changes.

Most phases of C.P.S. operation, including the groups to be covered, the types of contracts needed to attract these groups, the size of the C.P.S. organization, the character of its leadership, the future utilization of electronic record-keeping equipment, the size and location of housing facility, and practically every phase of C.P.S. operation requiring management decision and direction, is dependent upon the number of subscriber members to be served.

We have now reached a point where some of our earlier abstract opinions and theories on health insurance can be replaced by facts developed through experience and research.

First, there is much to encourage us. We know now that we have the tools and the ability with which to preserve freedom for doctors and patients in the face of closed panel competition. Our approach can be positive; it can be constructive.

The good physician-patient relationship, plus a service plan, are the principal tools needed to compete for the favorable decision of the buyer of health insurance. We have those tools. Many of our county societies and their members are already using them, and with excellent results.

Needed also are the positive public service programs of the county medical societies as prescribed by the C.M.A. Public Relations Department—24-hour emergency service for the community, health information service, medical care for all regardless of ability to pay, community leadership, protection of patients from excessive fees, from malpractice, from unnecessary procedures and from incompetence.

It is my responsibility, as your retiring president, to urge you not to lose by default the continuing battle for the control of medicine. We must keep C.P.S. strong and effective, for if we want to maintain any influence or control over health insurance, we must control a health insurance plan that can sell competitively, that can satisfy the desires of the purchasers of health insurance.

Our plan, C.P.S., with a $4,200 income ceiling, cannot compete successfully for large groups. It has only two or three large groups in the entire state. But in those areas where the doctors have asked that the ceiling be raised to $6,000, C.P.S. has been successful in competition with the closed-panel plans. The $6,000 income ceiling satisfies the desires of the purchasers of health insurance.

If we do not have an effective instrument in the health insurance field, the control will go to others, to the insurance industry, to the labor leaders, to the state, or to the closed panel plans.

Insurance industry control of medical economics is familiar to you. You need only review our years of struggle to get even minimal increases in the Workmen's Compensation schedule. We don't want that for all of medicine. Nonprofessionals, no matter how well intentioned, must not be permitted to seize the control through our inaction.

C.P.S. was founded by the doctors of California through this House of Delegates in 1939. Its purpose was and is to provide service to the public. It has successfully combated the attempts of two governors to socialize medicine in this state. And now, again, wherever it is brought up-to-date and armed with a $6,000 income ceiling, it is proving its effectiveness against schemes aimed at taking over control of medicine and the patient. C.P.S. is not only *our* plan. It is our only hope in the immediate future. I urge you to make it strong, and to keep it strong.

This does not mean that, overnight, C.P.S. is to double and treble its size. It does mean, however, that continued and steady growth will set a competitive pattern for other plans to follow to the end that the public will be even better served be the plans service or indemnity.

Speaking most objectively, and in no way reflecting on the sales and promotional efforts of C.P.S., I think it is a fair statement that membership has not even kept pace with our population growth. It therefore seems logical to base a projection of C.P.S.-Blue Shield growth goals on the present market position of the organization. Nationally the 77 professionally-controlled Blue Shield plans cover 19.06 per cent of the population, as compared with C.P.S. coverage of 5 per cent plus of the California population.

To compare the figures in California with those of the 77 National Blue Shield plans requires that the membership in both Blue Cross plans in California be considered, inasmuch as the majority of the other larger Blue Shield plans operate jointly with Blue Cross.

If the membership of the two Blue Cross plans in California is added to the membership of C.P.S.-Blue Shield, the proportion of population covered is approximately 15 per cent. From the California State Chamber of Commerce Survey of Voluntary Health Insurance in California, adjusted to current population figures (12,500,000) augmented by June 30, 1954, reports of Blue Cross, and a conservative estimate of Kaiser, Ross-Loos and other groups, the following is the approximate number of people covered by some form of health and accident insurance:

	Persons Covered	Per Cent Population
Commercial insurance companies	2,613,000	20.1
C.P.S.-Blue Shield (Jan. 31, 1955)	681,551	5.5
Blue Cross-Oakland (June 30, 1954)	599,885	4.7
Blue Cross-Los Angeles (June 30, 1954)	582,368	4.6
Kaiser Health Foundation	450,000	3.6
Ross-Loos	100,000	.8
Railroad self-insured	80,000	.64
Industrial self-insured	54,000	.43
Students—University health plans	45,000	.36

The preponderance of the population covered by agencies beyond the control of the medical profession is worthy of note. The tangible evidence of the attitude of insurance companies toward the medical profession is illustrated by these companies over a period of years in the field of industrial medicine.

Recently there have been developed Labor-Management committees sponsored by commercial carriers, which are evaluating both the ethical propriety and the dollar value of professional services before claims of policyholders are approved and paid.

In certain areas of the state, physicians have been asked to "accept" commercial indemnities as full payment for services rendered. This development has been aggressively promoted by several of the larger insurance companies, and has been repeatedly requested by representatives of the group of organized insurance companies operating in this field.

The medical profession does not control the operating policies or the market practices of the commercial insurance companies, and it certainly is not likely to do so. Insurance is a business, not a professional service, and it is the business practice of hanging an indemnity price tag on professional services that has had much to do with the growing public opinion that professional fees, if they exceed the indemnity allowance, are excessive. And perhaps more significantly in the long run, that professional services are a market commodity.

Nevertheless, it should be noted that commercial carriers, practically inactive a few years ago in the medical insurance field, are stepping up their promotional operations. Nationally the insurance companies cover approximately 34 per cent of the persons who have some form of health and accident insurance, whereas in California the private insurance companies cover approximately 50 per cent.

The benefits of the policies offered by these insurance companies are being broadened. Financial relationships with industry and labor are being exploited, and premiums are being lowered for volume sales. In short, the insurance industry is committed to a policy of saturation expansion within the framework of capital return.

Private insurance companies have the special advantage of an existing grass roots California sales organization of approximately 9,000 licensed agents and brokers to distribute their policies, according to data from the Department of Insurance of California. It now controls the coverage, in medical claims payments, for a group equal to 20 per cent of the California population, and controls more than 50 per cent of the medical care insurance of all types now in force within the state.

The competitive position of C.P.S.-Blue Shield as it relates to closed panel groups (especially the Kaiser Health Foundation) is largely dependent upon the funds available for the expansion of facilities.

During the past few years the number of clinics in various sections of the state, but especially in Southern California, has been on the increase. Some of these clinics are now offering medical care to such persons as can practically use the clinics, for fees comparable to the dues paid by subscriber members of C.P.S.

Where these clinics have been well organized—and relatively large numbers of people live within easy traveling distance to the clinics—they have been quite successful in enrolling an increasingly large number of people. There is every evidence that the growth of the number of clinics will accelerate and these clinics might become a competitive factor, especially in the field of the sale of individual contracts.

The growth of the larger closed panel plans has been slowed down, due to the lack of funds for the building of clinics and hospitals. Should additional Federal money become available, then the large closed panel plans will become an even greater factor in this competitive market.

Competitively, then, how large should C.P.S.-Blue Shield be to maintain its position in this medical care field?

In chatting informally with one physician on this subject, we agreed that:

"C.P.S. should be large enough to constructively influence all health and accident insurance and voluntary plans—both closed and open panel—but not so large as to be a monopoly or to have any appearance of domination, in order that the individuals covered by any prepaid plan or health insurance may be best served."

Obviously the projection of growth goals for C.P.S. in the California market can be no more than the setting of bench marks attainable under anticipated circumstances, and subject to revision and adjustment when and if circumstances change.

Your decision on a growth objective that will hold for a period of possibly five years will be most helpful in reaching the many management decisions necessary in future planning.

A decision as to this growth objective, too, will be extremely beneficial in guiding the course of C.P.S. relations with physicians—in cooperating with county societies and the C.M.A.—and will certainly have a material influence on both C.P.S. public relations and sales policies.

On an entirely different front, boards of supervisors, taxpayers' groups and others, I believe, should be interested in using the vehicle of prepaid medical care insurance for the continued home town care of veterans, care of military dependents and care of indigent persons.

Following World War I, and again in the ten years since World War II, the bureaucratic ambitions of the Veterans Administration have increased the number of hospital beds to 117,580.

You will perhaps recall that the first report of the Hoover Commission was quite critical of the expansion of the vast facility of the Veterans Administration, and there has been some effort made to curb the growth and extension of hospital facilities.

Through this expansion period the Veterans Home Town Care Program was developed and, as is of course generally known, is more extensive in California than elsewhere.

Many of the Blue Shield plans made some effort to develop a Home Town Care Program, but only California, Michigan and North Carolina have really been a factor in preserving for the private practice of medicine a portion of this service to veterans. In California, where many veterans are located many miles from any veteran facility, the rendering of better service to these veterans has been not only possible, but very evident.

The administration is still continuing its program of eliminating as many Home Town Care programs handled by organizations such as Blue Shield as possible. In some states contracts that were not acceptable were presented, and thus the programs have been discontinued.

Recently such a contract was submitted to C.P.S., and negotiations are now being carried on to revive the previous contract with amendments and changes to fit conditions.

The case load of veterans handled through C.P.S. runs approximately the same, at 12,000. The annual expenditure by the government for these veterans under the Home Town Care Plan has, however, continuously decreased, until the amount spent in 1954 was $1,506,951.

It will probably be extremely difficult for California to maintain its position without a change in trend throughout the nation, and if such a renewed program on a nationwide basis is not undertaken, it is believed that it is only a question of time until the Veterans Home Town Care Program in California will be eliminated.

It is suggested that we appoint a new Veterans' Committee, to be composed of at least four physicians who are active in the American Legion, three physicians who have a substantial number of veteran patients, and one representative of the C.P.S. trustees, plus such other physicians as might be interested and helpful.

During the past several years, physicians in various sections of the state have indicated interest in the development of an indigent program that might better serve indigents and permit private physicians to serve those needing outpatient care in their own offices.

The indigent population in California as of November 30, 1954, was 485,402.

The population growth, accompanied by an increase in the number of indigents, is presenting a perplexing financial problem to many of the counties in the state, and we have heard, both directly and indirectly, from areas in which those most concerned are seeking a new and perhaps less costly method of rendering medical care to these indigents.

Some years ago C.P.S. took definite steps toward the development of an indigent program. At that time most of the physicians of the state were carrying such a load that only a few were aggressively interested.

At that time it seemed impossible to develop a program where costs could be determined, and interest in the suggested plans waned.

During the past five years, the Washington Physicians' Service has developed an indigent program which seemingly is satisfactory to the patient, the state, the physicians and, therefore, to W.P.S. The statistical and actuarial data gathered during this period could be of great help to C.P.S., should it be decided to aggressively enter this field.

It has been suggested that one or more of the state and county taxpayers' associations would gladly undertake the study of this problem from the economics side, provided funds were available to pay for direct costs. In those counties where the tax associations are most active, and do have an influence on the way the taxpayers' money is spent, it is believed that this might be a satisfactory approach.

Certainly a committee of physicians from the county society could well study the needs of the indigent from the service standpoint, with the hope that any plan developed would be substantially more helpful, psychologically and medically, than is possible under present conditions.

The projects that I have outlined, of course, are for the purpose of arousing intelligent discussion and not to raise fear that the problems are insurmountable. They are for the physicians of today and for the physicians of tomorrow.

Indeed, we are doing something about that too, as we have just completed two Student A.M.A. Public Relations Conferences, one in San Francisco and one in Los Angeles, for the physicians who are to take our places, where we have attempted to point up the value of protecting the private practice of medicine.

In summary, what I have been saying is this: When there is a medical problem, first, let us recognize it; second, let us study it carefully; third, let us then assert positive medical leadership to solve the problem in a manner which is equitable to the public, our patients and the medical profession.

34 North Ash Street, Ventura.

Spinal Anesthesia

A Survey of Neurologic Complications

HALL G. HOLDER, *M.D.*, and CLIFFORD L. GRAVES, *M.D.*, San Diego

• The incidence of severe neurologic complications from spinal anesthesia in San Diego County in a series of 32,882 cases in a five-year period was 0.012 per cent. Morbidity of 1 in 10,000 cases compares favorably with morbidity associated with general anesthesia.

Meticulous technique and abandonment of continuous spinal anesthesia can further reduce the incidence of complications.

More emphasis should be placed on the elimination of preexisting neurologic disease as a contraindication to spinal anesthesia.

In the five years 1946-1950 spinal anesthesia was administered in more than 43,000 cases in the 12 hospitals of San Diego County. Careful review was made of 32,822 records in which the data were complete. The primary interest of the review was neurologic complications. To determine the number of neurologic complications a questionnaire was sent to all practicing physicians in San Diego County. By the very nature of the disability, patients with neurologic complications are led to seek medical advice. Of 500 questionnaires sent, 370 were returned; and 57 of the physicians who replied said they had observed patients with neurologic complications from spinal anesthesia. Of the 130 physicians not returning questionnaires, none engaged in surgery or anesthesia. A personal check of a portion of these resulted in negative reports. The 57 positive replies dealt with a total of 16 patients. Every patient was seen by at least two physicians. The physicians reporting positively were personally interrogated and the hospital records of the reported patients were reviewed. A recent follow-up report on the neurologic status was obtained from each patient's physician. The 16 cases of neurologic complications were classified as follows:

1. One case of progressive adhesive arachnoiditis with fatal outcome six months later, following a secondary operation for the neurologic sequelae. The patient was the subject of a case report by Woods and Franklin[11] from the neurologic surgical service of the San Diego County General Hospital.
2. Three cases with persistent motor and sensory disturbances—of five years' duration at the time of this report in one case, 18 months in another and six months in the third.
3. Eleven cases of transient motor or sensory disturbances, in all of which the patient recovered from the neurologic deficit within a six-month period.
4. One case of abducens paralysis with complete recovery within six months.

Statistically, 16 neurologic complications in 32,822 spinal anesthesias would be 1 in every 2,051 or 0.049 per cent. However, only four of the 16 could be classified as severe or with persistent symptoms—an incidence of one severe complication in 10,000 anesthesias or 0.012 per cent. These data are comparable with the findings of Schildt,[7] Nicholson and Eversole,[6] and Shimberg.[8] The only well-documented review to the contrary was by Thorsen[9] in Sweden, who reported a series of 2,493 cases with an incidence of neurologic complications five times greater than that reported in the present survey. However, the accuracy of his conclusions is open to question since the data he reported were obtained by a questionnaire sent to the patients.

That a patient's evaluation of his symptoms and complications may be in error was illustrated in the present study. Five cases were removed from the series when critical examination of the records and interrogation of the patients showed that the symptoms were not related to spinal anesthesia in any way. Furthermore, even in some of the 16 cases of complications accepted as such in the present report, factors other than the anesthesia could have been responsible for the neurologic symptoms. For example, one patient underwent operation for a herniated disc, and postoperatively there was reasonable question whether the symptoms were produced by the operative procedure or by the anesthesia. In another case, trauma to the nerve root at the time of spinal puncture produced the same paresthesia that the patient complained of after injection of the anesthetic agent. Finally, in two cases of hemorrhoidectomy the neurologic symptoms recorded involved the external femoral cutaneous nerve, paresthesia of which may result from local pressure on the operat-

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ing table. Similar paresthesias have been reported when general anesthesia is employed. Some observers might hold that these cases should have been excluded, but they were retained so that the data could not be considered biased in favor of spinal anesthesia.

RELATIVE RISK OF SPINAL AND GENERAL ANESTHESIA

If spinal anesthesia were rigidly reserved for patients unable to accept a local or general anesthetic, as was suggested in a recent article by Kennedy, Effron and Perry,[5] the vast majority of abdominal operations would have to be done under general anesthesia. Is the risk with general anesthesia lower than with spinal? This question has been debated in the literature without definite conclusions. Each method has advantages and disadvantages, and each has complications. The neurologic injuries of spinal anesthesia cannot be ignored, but neither can the brain damage following hypoxia of general anesthesia. In neither method can all risks and complications be eliminated.

The case for spinal anesthesia in cesarean section was presented convincingly by deCarle.[2] He noted less morbidity and mortality with spinal than with general anesthesia for both mother and child. No serious neurologic complications occurred with spinal anesthesia. DeCarle attributed this to the one-dose technique by experienced physician-anesthesiologists. He called attention to the unfavorable light in which spinal anesthesia has been placed by lawyers, by insurance companies, and even by physicians. And he expressed fear that if the true facts about spinal anesthesia are not made known, the established value of conduction anesthesia is seriously threatened.

Many surgeons prefer spinal anesthesia because of a conviction that a less complicated postoperative course ensues. The proponents of spinal anesthesia believe that with it their patients suffer less shock, less capillary bleeding, less depression, less dehydration, less postoperative nausea and vomiting, less ileus, and less disturbance to physiologic balance in general. They feel that spinal anesthesia allows more accurate, more definitive and therefore more curative operation, and that to this extent the fine relaxed field for which spinal anesthesia was criticized by Kennedy is for the patient's ultimate good rather than for the surgeon's immediate convenience. In many extensive abdominal operative procedures, spinal anesthesia permits of less forceful packing of other viscera, obviates the necessity for traumatic and powerful retraction and reduces diaphragmatic compression and shock due to trauma. All anesthesia, including spinal, entails a small risk, but so do many other fully accepted diagnostic and therapeutic procedures.

CAUSE AND PREVENTION OF NEUROLOGIC COMPLICATIONS

Critical evaluation of the literature and the results of the small survey herein reported would suggest that errors in technique and undiagnosed preexisting diseases of the spinal cord may be responsible for the complications of spinal anesthesia. Errors of technique fall under the following headings:

1. Inaccurate or traumatic introduction of the spinal needle into the subarachnoid space.
2. Contaminated spinal puncture, either chemical or bacterial.
3. Errors in the technique of administration.

Inaccurate or Traumatic Introduction of the Needle Into the Subarachnoid Space

Dripps and Vandam[3] pointed out that all the complications attributed to spinal anesthesia can also occur after simple lumbar puncture, and in fact do occur more commonly when the puncture is done by persons with little experience in the technique. Furthermore, they said that the early microscopic changes in the meninges attributed to spinal anesthetic agents may appear after lumbar puncture alone. In a normal healthy spinal cord, properly performed lumbar puncture with a small caliber needle should produce no symptoms. However, if the periosteum is injured, if the annulus fibrosus or the intervertebral disc is pierced, if the paravertebral plexus of veins is ruptured and a hematoma forms or there is bleeding into the subarachnoid space, or if direct injury to nerve or nerve roots or cord substance occurs, significant sequelae may result. Dripps and Vandam expressed belief that many of the backaches following spinal anesthesia may be due to these injuries. Injury to the paravertebral venous plexus and the formation of an epidural hematoma, especially if blood enters the subarachnoid space, will certainly produce meningeal irritation. Damage to vessels and/or accompanying nerve roots may produce ischemia with possible subsequent neurologic signs and symptoms. Dripps and Vandam also pointed out that the alteration in cerebral spinal fluid pressure as a result of the spinal puncture alone, may produce many of the complications attributed to the spinal anesthetic agent.

Contaminated Spinal Puncture, Either Chemical or Bacterial

Wilson and co-workers[10] observed that the subarachnoid space, of all areas in the human body, receives foreign substances least well. The same neurologic complications attributed to spinal anesthetic agents have been reported after the administration of all kinds of drugs, serums and antibiotics. The resistance of the subarachnoid space to bacteria and irritating substances is many times less than the known resistance of the peritoneal cavity to similar contamination. In spite of this, one may witness very meticulous preparation of the skin of the abdominal wall for laparotomy, yet only cursory preparation of the skin at the site of the lumbar puncture. Bacterial contamination of the intraspinal space may certainly occur from multiple traumatic punctures. Too often, the portion of the needle entering the intraspinal space is contaminated by irritating substances transferred to it by an inexpert anesthetist. An example is lack of protection of the gloved finger by gauze while palpating the desired interspace. Needles and syringes not properly cleansed before they are sterilized are direct causes of irritant contamination. The authors noted, for example, that the cleansing solution known as Detergex,® if not completely removed from syringes and needles, will deposit a white precipitate in the anesthetic solution.

Besides the anesthetic drugs, certain contaminating substances may gain entrance into the spinal canal. Ampules containing the anesthetic agents occasionally have microscopic defects through which sterilizing solutions can seep. If the sterilizing solution is colorless and contains irritants like alcohol or phenol the contamination cannot be readily detected, with the result that highly neurotoxic materials may be injected into the subarachnoid space. Obvious precautions now employed are dry sterilization or the use of a distinctive stain to color sterilizing solutions in which ampules are immersed. In San Diego hospitals in the past three years, ampules have been immersed in a colored solution for test purposes and during that time over one hundred have been found to be defective.

Technique of Administration

In the continuous spinal anesthetic technique, the anesthetist injects small amounts of the anesthetic solution repeatedly at a fixed point in the spinal canal. At any time, conditions may arise that tend to bring about pooling of the anesthetic solution in the dorsal curve. When additional anesthetic solution is injected, especially if it is not thoroughly mixed with the diluent, there may be a temporary overconcentration of the drug at a certain point. The one fatality in the present series and the only case of sclerosing arachnoiditis followed continuous spinal anesthesia. The anesthetist in this case felt that this technique could have been the causative factor. The patient did not have complete and satisfactory anesthesia and therefore received more than the usual amount of anesthetic solution. In a perusal of the literature it was noted that the majority of neurologic complications followed the continuous spinal technique, either with the in-dwelling needle or the in-dwelling catheter. There is reason to suppose that the introduction of a needle or catheter *per se* could add to the possible introduction of infection and could produce direct irritation and increased trauma to the delicate structures of the subarachnoid space. In continuous spinal anesthesia, the total dosage of the anesthetic agent is usually significantly larger than with the conventional one-dose method, and since the drug that is used is potentially toxic, the chances for injury are greatly increased. Actually, continuous spinal anesthesia is no longer necessary.

OTHER FACTORS

Toxic Effect of Anesthetic Agents

The question of the toxic effect of the anesthetic agents themselves in therapeutic doses is one to which there is no definite answer. Experimental work on animals has produced no evidence that, if the spinal cord is normal and only a single dose of a recognized agent is used, permanent neurologic changes develop. Holder[4] administered spinal anesthesia to 18 dogs, using doses comparable to those given man, and no permanent neurologic changes in the cords of the sacrificed animals were demonstrated after varying periods of time. Experiments of the same kind have been reported by other investigators and they reported similar observations.

Preexisting Disease of the Spinal Cord

There is suggestive evidence that preexisting undiagnosed conditions or disease of the spinal cord may be responsible for some of these complications. What is needed to explore this possibility is large series of cases in which routine examination of the spinal fluid is made at the time of anesthesia to determine if there is any correlation between neurologic complications and abnormal conditions in the spinal fluid.

Medical-Legal Complications

Beecher[1] in a recent editorial related that the Kennedy[5] article previously cited had great influence in spite of its numerous scientific deficiencies. The resulting hysteria prompted some institutions to bar spinal anesthesia altogether. A survey by Beecher of ten University Hospitals, nationwide, made over a five-year period showed that spinal anesthesia accounted for only nine per cent of all anesthesias and was still declining. More particularly, he decried the fact that insurance companies now refuse or limit coverage for the complications of spinal anesthesia. Leadership in resisting nonprofessional pressure groups should come from medical teaching centers if dangerous encroachment on scientific progress and professional freedom is to be averted.

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REFERENCES

1. Beecher, H. K.: A note on spinal anesthesia and its relationship to a larger problem, Surgery, 35:820-821, May 1954.

2. deCarle, D. W.: Spinal anesthesia in cesarean section, J.A.M.A., 154:545-549, Feb. 13, 1954.

3. Dripps, H. D., and Vandam, L. D.: Hazards of lumbar puncture, J.A.M.A., 147:1118-1121, Nov. 17, 1951.

4. Holder, H. G.: Selective anesthetic program: its desirability, Calif. & West. Med., 50:1-10, Mar. 1939.

5. Kennedy, F., Effron, A. S., and Perry, G.: Grave spinal cord paralyses caused by spinal anesthesia, Surg., Gyn. & Obst., 91:385-398, Oct. 1950.

6. Nicholson, M. J., and Eversole, U. H.: Neurologic complications of spinal anesthesia, J.A.M.A., 132:679-685, Nov. 23, 1946.

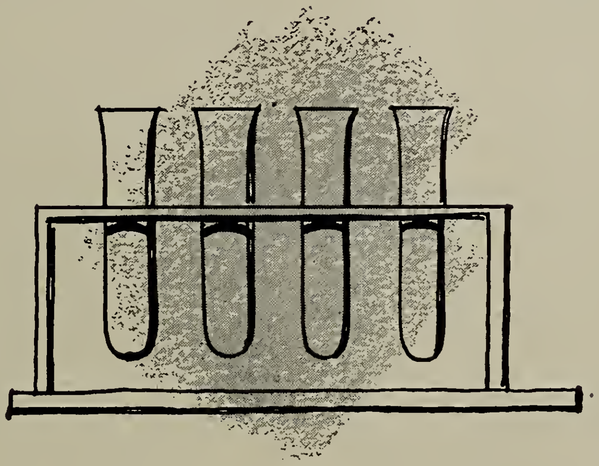
7. Schildt, E.: Low spinal cord injuries following spinal anesthesia, Acta Chir. Scandinav., 95:101-131, 1947.

8. Shimberg, M.: Spinal anesthesia: ten-year study, M. Bull. Vet. Admin., 12:117-128, Oct. 1935.

9. Thorsen, G.: Neurological complications after spinal anesthesia and results from 2,493 follow-up cases, Acta Chir. Scandinav. (Supp. 121), 95:1-272, 1947.

10. Wilson, G., Rupp, C., and Wilson, W. W.: The dangers of intrathecal medication, J.A.M.A., 140:1076-1079, July 30, 1949.

11. Woods, W. W., and Franklin, R. G.: Progressive adhesive arachnoiditis following spinal anesthesia, Calif. Med., 75:196-198, Sept. 1951.



Ulcerative Colitis

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• In the early stages ulcerative colitis is reversible and a normal bowel can be regained. This is facilitated by the use of cortisone which should be given promptly during the first attack.

Surgical operation has an important role in helping to reduce the high initial mortality and in overcoming invalidism in the chronic phase.

A clear understanding of the role of emotional tension enables the internist to make an appreciable contribution to the management of the disease.

ULCERATIVE COLITIS is a disease with a very appreciable mortality during the first year of the illness. Rice-Oxley and Truelove[8] (1950) analyzing the cases at Oxford found that in 22 per cent of all new cases the patients were dead within a year, but the mortality rate slowed subsequently and by the end of five years 31 per cent had died. Wheelock and Warren[11] (1955) found that the majority who eventually died or required operation did so within three years of the onset (58 per cent for each group).

Two aspects of modern treatment that are particularly impressive are the use of corticosteroids and the advances in the surgical technique for the serious cases. Corticosteroids considerably increase the chance of remission and improvement in chronic ulcerative colitis, and this is true for all grades of severity of the disease; but the hormone is not a specific remedy. It seems likely that prompt energetic medical treatment may prevent at least a proportion of cases from causing irreversible damage to the colon which leads on to invalidism, to the need for surgical treatment, and to late complications such as malignant disease. And for those whose disease process has become irreversible, there is, through surgical treatment, at least a very good chance of getting back to a full active life and with remarkably little inconvenience.

It is, perhaps, only recently that it has become recognized that the disease process is in fact reversible and that normal radiological and sigmoidoscopic appearances may be regained even in a severe form of the illness (Kirsner, Palmer and Klotz,[6] 1951). What is needed so much is more effective early treatment to prevent the irreversible stage being reached, and here cortisone may give some real help. The increasing resort to operation is providing a much clearer picture of the morbid anatomy and particularly the histologic features of the disease in relation to the clinical course of the illness. The morbid anatomy has been well enough known in its grosser manifestations but the histological features have become more apparent from the studies of Warren and Sommers[10] (1949) at Boston, and Dukes[4] (1954) at St. Mark's Hospital, London.

The histological changes are always more widespread and severe than the appearance to the naked eye would suggest. In contrast with Crohn's disease, the disease process is remarkably superficial in many patients and confined to the mucosa. With increasing severity, there is involvement of the submucosa, and thrombosis may cause ischemic necrosis of the bowel wall. The essential initial lesion is a dense infiltration of the mucous membrane with lymphocytes, plasma cells and occasional eosinophils. Polymorphs are seldom much in evidence except in the tiny abscesses buried deep in the mucosa—so-called crypt abscesses, one of the most distinctive lesions of the disease in some cases. Most crypt abscesses eventually discharge into the bowel, becoming the source of the large quantity of pus and blood evacuated with the feces; but others may rupture into the space between the crypts and the mucosa, undermining the surface of the epithelium and leading to the formation of ulcers. So long as the disease is confined to the mucosa, it is always possible that complete resolution may occur with complete regeneration.

With severe degrees of denudation of the bowel, there is regeneration of the surface with only a thin film of cuboidal epithelium and presumably the functional efficiency of the bowel, particularly its capacity to absorb water, is impaired. If ulceration has extended deeply into the submucosa and muscle coats, it is very rare to find any indication of mucosal regeneration, even after the bowel has been rested and defunctioned.

The histological studies certainly link up well with the knowledge of the natural history of the disease, which presents an amazing diversity of clinical pictures. There are the very acute cases which tend to pass on to perforation and hemorrhage from involvement of the deeper part of the bowel by vas-

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cular changes, but there are also other severe cases in which the lesion appears to have remained superficial, and a restoration of the normal function of the bowel can be achieved.

At the other end of the scale there are the chronic cases, sometimes associated with failure of the bowel because the primary lesion was so deep. In such cases there is often a degree of invalidism from low grade toxemia. In others, the bowel may have an intact lining but its functional capacity be impaired with varying degrees of diarrhea although the patient may remain in good health.

It does seem that corticotropin (ACTH) and cortisone can influence the natural history of ulcerative colitis. There are now many reports in the literature on the beneficial effects—abatement of fever and toxemia, increase in appetite and a sense of well-being—which may follow its use in a proportion of cases. Always in such a disease it is difficult to determine how much of the improvement is due to spontaneous remission and how much to treatment.

To try to get a clear picture of the benefits from cortisone in ulcerative colitis the Medical Research Council organized a clinical trial covering 210 patients, approximately half receiving cortisone and the other half receiving an inactive dummy preparation for six weeks. It was a blind trial, the clinician not knowing which preparation he was using.

The effect of treatment was assessed by putting patients into three categories at the end of six weeks' treatment. In the majority this was at the conclusion of their treatment; a minority during the second half of the trial received treatment for a longer period than six weeks, and for convenience in assessing the results their condition at the end of six weeks likewise was appraised. In some patients the specific therapy was abandoned before six weeks had passed, as noted above, and their condition has been assessed at the time when treatment was abandoned. The three clinical categories were as follows:

Clinical Remission: One or two stools a day without blood. No fever. No tachycardia. Hemoglobin normal or returning toward normal. Erythrocyte sedimentation rate normal or returning toward normal. Gaining weight. (To be included in this category the patient was expected to show all the above features.) In the great majority of cases all these data were included in the records, but in some the data for hemoglobin, sedimentation rate, or weight were incomplete. In such cases all the available data had to conform to this schedule.

No Change or Worse: Self explanatory.

Improved: All intermediate cases.

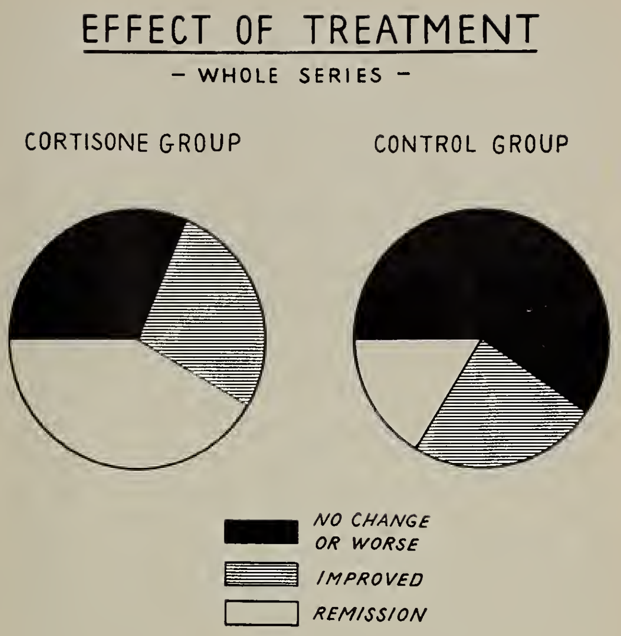

Chart 1

The results for the whole group are shown in Chart 1. Patients receiving cortisone had a clear-cut advantage over the patients who were given a dummy preparation. About two of every five patients on cortisone therapy were in clinical remission at the end of six weeks of treatment, compared with less than one of every six patients receiving the inert therapy.

Chart 2 shows the results separately for patients admitted in their first attack of the disease and patients admitted in a relapse. In each case the cortisone-treated group shows results which are significantly better than those of the control group. The beneficial effect of cortisone appears to be particularly well marked in first attacks of the disease.

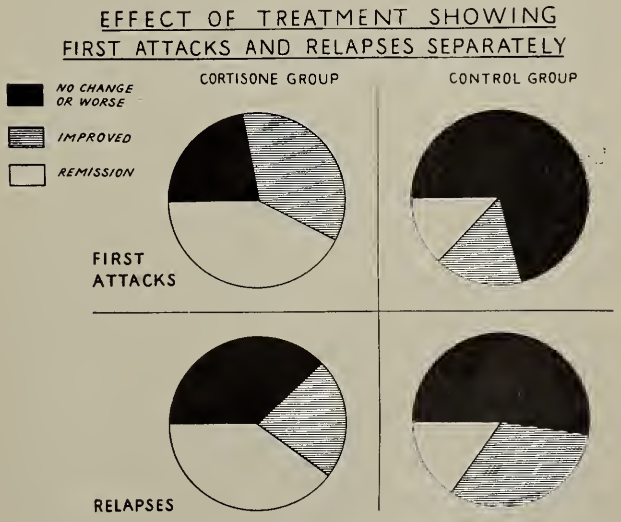

Chart 2

Experience has shown that first attacks are in general more dangerous than relapses, and this relationship holds good for the control groups. By contrast, among the patients treated with cortisone those treated during an attack fared somewhat better than those treated in relapse.

A small proportion of patients had a relapse when the cortisone was stopped. During the first half of the trial this appeared to happen in four of 57 cases. The benefit in the cortisone-treated group was reflected not only in greater incidence of clinical remissions but also in a lower proportion of patients coming to ileostomy—8.3 per cent of the cortisone-treated group, compared with 13.9 per cent of the control group. The mortality rate was lower in the cortisone-treated than in the control group—4.6 per cent against 9.9 per cent. Evidence as to changes observed sigmoidoscopically and by barium enema examination changes was incomplete, but available evidence certainly suggested that cortisone had a beneficial influence as judged by sigmoidoscopic changes. Treatment with cortisone has its own dangers; a perforated duodenal ulcer, coronary thrombosis and perforation of the bowel have been reported. In the present series there were only two cases of perforation of the bowel, both in the control group. It does seem that the use of cortisone may, however, increase the risk of septic complications, and the greater use of antibiotics simultaneously may be needed.

The patients in the present series were observed for an average of 18 months. Nine months after the trial period patients treated with cortisone for their first attack preserved a clear advantage over patients in the corresponding control group. By contrast, patients in relapse who were treated with cortisone had lost the initial advantage they showed at the end of the trial period. A further trial is in progress to determine whether ACTH or cortisone gives better results and to see whether continuous cortisone therapy will prevent relapses.

It does seem that cortisone can really influence the disease process when given in the first attack. Cortisone should be given without delay as soon as the diagnosis is established.

Although cortisone does increase the remission rate, it cannot prevent development of the more serious manifestations of the illness in some patients, and it is in these patients that modern surgical treatment is offering the opportunity of a return to a full and active life.

There has been great progress made in the last few years in the surgical technique of ileostomy and colectomy, and particularly in the improvement of appliances for the patients. Although an artificial anus is, of course, a disability, it is astonishing how little inconvenience it can cause provided the patients are properly selected. And what a tremendous difference it makes to their lives! Patients are able to return to full employment, working the same hours at the same jobs and under the same conditions as their fellows, and are able to mix freely both socially and professionally without anyone's being aware of their disability. Not only is their business life uninterrupted but they can enjoy a full measure of sport—football, tennis, golf, dancing, swimming. One patient even has become expert in underwater fishing.

The majority eat a very full diet with perhaps some restriction on fruits and vegetables, particularly onions. Most of the patients have resumed normal marital relations.

The St. Mark's cases have recently been reviewed by Counsell and Mummery[3] (1955), who were particularly impressed by the fact that, provided the ileostomy was well placed and constructed and an adhesive appliance worn, the patients were incapacitated to a remarkably small degree and the patients' reaction was only to regret that the operation was not done before and that they were not spared long months or years of semi-invalidism.

There are two very firm indications for ileostomy and colectomy. One is fulminating colitis and the other is tormenting persistency of symptoms or frequency of relapse. One cannot lightly advocate it, as it is a major operation. It should not be done unless the patient has really lost the ability to regain health even with all available medical measures.

An important consideration with respect to operation is the risk of a carcinoma developing, particularly in cases of long standing. Attention has been focused on that aspect by the relatively high incidence of carcinoma in surgical resected specimens, particularly those from patients with a history of more than ten years of disease of the colon. Zetzel[12] concluded from a review of the recent data that carcinoma of the colon develops in about 3 per cent of all cases, in 11 per cent of surgically treated cases, and in more than 20 per cent of cases in which the disease is of more than 20 years' duration. Present experience at St. Mark's Hospital gives an incidence of 5 per cent with carcinoma in surgically resected specimens, but this figure must depend on the stage in the disease process when operation is undertaken.

The surgical group is a highly selected one and our real interest is in considering the overall risk of the whole number of persons with ulcerative colitis who enter the hospital; and there is no doubt that each individual internist has been rather unimpressed with the risk of this complication. Carcinoma developed in only two of 41 followed-up patients who had had ulcerative colitis for periods of more than ten years.

In an important long-term follow-up by Wheelock and Warren[11] (1955) in Boston, it was noted that there were 28 patients (8.8 per cent) with carcinoma among 319 who had survived ten years.

When a carcinoma arises it tends to be atypical, often causing a diffuse stricture rather than any recognizable surface tumor or ulcer (Counsell and Dukes,[2] 1952). It grows rapidly and metastasis occurs early, making it difficult to diagnose and giving a bad prognosis. The risk seems to be related to the age of the patient.

What is badly needed is the construction of life tables giving the expectation of developing carcinoma in each age group in the normal population and in patients with colitis.

The author feels that the risk of subsequent development of carcinoma is an important consideration in the younger age groups, but no emotional feeling on this score should be allowed to influence judgment in individual cases. There is still the risk of the operation (3 per cent mortality) and the not inappreciable risk of subsequent morbidity, particularly intestinal obstruction. Operation certainly pays some dividends in the prevention of subsequent death from carcinoma, but the credit balance is probably quite small.

Aside from the natural history of the disease, what are the other particular points which help one to decide to advise surgical treatment? The patients to whom there is the greatest threat to life are, of course, the severely ill persons with toxic fulminating cases and rapid loss of weight. Cortisone or ACTH can be tried, but, unless the response is dramatic, treatment with these agents should not be prosecuted. Frequency of bowel actions, the weight of stool persistently greater than 1,500 grams, brisk bleeding from the bowel, are all poor prognostic signs, but the physical sign most to be feared is increasing distention from dilation of the large bowel. This probably indicates thrombotic changes in the submucosa with a threat of necrosis and perforation. This is invariably silent, the diagnosis usually being made radiologically by the presence of air in the peritoneal cavity in a patient with rapidly increasing toxemia. Except for those cases in which there is such distention of the bowel, it is always possible that the most acute attack will suddenly turn the corner and the patient fully recover. The mortality in this group in the past has probably been at least 80 per cent but may be nearer 50 per cent today with better understanding of the electrolyte disturbances and the benefit of cortisone.

It is perfectly reasonable for anyone, if he wishes to do so, to pursue an energetic medical treatment with the support of blood transfusion and chemotherapy if he feels there are arguments against surgical treatment. The living conditions of the patient with the absence of proper toilet facilities, the personality of the patient and the availability of surgical skill are all important considerations. My own bias is unquestionably toward an operation in this severe group, and I am most impressed by the immediate relief of toxemia which follows ileostomy and subtotal colectomy, and the patients have a smoother convalescence than those who have ileostomy alone. The reason is obvious as they have lost a large area of inflamed bowel that was pouring out blood and serum and salts and embarrassing the electrolyte and protein balance.

The chronic phase is perhaps more difficult to assess from a surgical viewpoint. It is important that the patient should feel that the operation is necessary—that he has adequate evidence that all available medical measures have been unavailing. The patient may have reached a chronic phase after passing through an acute illness, his general condition then remaining stationary and he crippled by a persistent and troublesome diarrhea with perhaps no improvement after two or three months. Again systematic complications may arise, for example, anemia, skin sepsis, pyoderma, erythema nodosum, arthritis. Admittedly, the pyoderma can heal with continued medical management but it is a weary, painful and unprofitable pathway, and it constitutes a strong indication for colectomy. Persistence of diarrhea at night is a particularly exhausting symptom and should favor surgical intervention.

Another group of patients in the chronic phase are those who are left with a distressing degree of urgency of defecation, so much so that they find moving about a city a hazardous and anxious task. I have had patients who have kept a map of all the available lavatories. Social engagements become a nightmare; the constant feeling of uncertainty of the bowel with the compelling urgency of defecation which may overtake them at any moment makes it impossible to enjoy or indeed undertake any social engagements. Therapy is, unfortunately, very unsuccessful. Such patients are among the most grateful for having had ileostomy and colectomy.

Another group for surgical treatment is made up of those with a segmental distribution of the disease, either right-sided colitis or a disease affecting the transverse colon. They have the advantage that continuity of bowel can usually be maintained, and it is very difficult to exclude the possibility of Crohn's disease. More difficult are those patients with a localized disease affecting the sigmoid colon and rectum, some of whom may have most troublesome symptoms; and I do not feel the failure to demonstrate the disease radiologically throughout the whole bowel is a contraindication to operation. In my experiences, the disease is usually much more extensive than it appears radiologically, and total colectomy with ileostomy is the best policy. Colostomies should be avoided.

GENERAL MANAGEMENT

In considering the general management of the illness, it is necessary to keep in mind the personality and temperament of the patient and to be aware of the way in which concealed emotional tension can adversely influence the illness. A detailed assessment of these factors is very difficult in those patients who are "toxic," have high fever and malaise of so considerable a degree as to make consideration of personal problems virtually impossible. I do not think this factor plays any part with those patients with chronic continuous invalidism due to persistent and unhealed colonic disease. The influence here is much more somatopsychic than psychosomatic. The persistent diarrhea, the uncertainty and urgency of bowel actions, the disturbance of sleep at night all combine to make the patient irritable and wretched, and difficult to handle. It is probable that it was such patients that came to the mind of a surgeon at a medical meeting who, when the question of personality came under discussion, said that "the patients are as offensive as their stools."

In the remaining cases, however, it is difficult not to overestimate the significance of the emotional factors which I am convinced play an important role in at least half the patients. The general personality has been well described, particularly by Groen[5] (1947) and Paulley[7] (1950). They are exceptionally tidy persons and they like things just so. They dress very neatly. In hospitals their bed lockers are extremely tidy. They tend to be sensitive, fastidious and chicken-hearted people and any unintentional slights and little day-to-day difficulties of living get under their skin, and build up to produce an unbearable inner tension. Whereas most people can ease their feelings by getting cross, it is literally quite impossible for them to have a row. Their safety valve mechanism is congenitally absent. They tend to become very dependent upon one person, often a parent. This type of personality is vulnerable to any threat to security and to any loss of affection and to any humiliation. Once one has achieved adequate rapport with such patients (which needs time, privacy and patience) it is surprising how much they can reduce their emotional load by unburdening their story, often told for the first time. The initial attack or the relapse may have been precipitated by disappointment, or the loss of a parent or a close friend—a family argument, a family scandal. One of my patients had a relapse every time her wayward daughter had an illegitimate pregnancy. Often patients have some difficult decision to make and are quite unable, unaided, to make up their mind; and it is here that the internist can play such a valuable role.

I do not believe that this psychosomatic aspect of colitis is the cause of the disease, and I am sure there is some basic metabolic failure in the bowel which renders the patient sensitive to the emotional allergen. I am sure some patients with colitis have a perfectly normal personality and a normal "goose-booing quotient." In the past year, I have had two patients with ulcerative colitis, one a champion boxer and the other a champion wrestler; and no one in his senses would accuse either of having any lack of aggression.

However, in the average case of ulcerative colitis, the consideration of this aspect by the internist may make a real contribution to the speed of the patient's recovery and may prevent many passing into a state requiring surgical treatment.

What are the other essentials of medical management in the acute phase?

Hitherto, too much emphasis has been placed on the negative aspects of medical treatment, particularly the low residue diet. It is much more important to emphasize a high protein and high calorie intake with vitamin supplements. It is a wasting disease with nitrogen loss from the bowel with an additional breakdown of body protein which must be offset by a better intake. The difficulty comes in the acute phase when appetite is lost and every effort must be made to keep up the calorie intake with small frequent feedings. Sometimes a nasal tube is invaluable. It does sometimes occur that the patient is sensitive to milk, or some other food. When that is the case the effect of completely cutting out the offending food may be tried. Sometimes just a few days on fruit juice and glucose only or a few days on apple puree or some other single food substance such as porridge and syrup, then building up gradually, seems to help the patient to turn the corner, and may provide evidence of sensitivity to a particular food factor. The hemoglobin must be maintained with intermittent blood transfusions, not giving more than 1,200 ml. at a time. The effect of cortisone should certainly be observed in every case and doses over 200 mg. a day covered with simultaneous antibiotics. Morale must be maintained by letting the patient feel that something is being tried the whole time, such as a course of penicillin, streptomycin or Sulfathalidine,® but I have a personal bias against the broad spectrum antibiotics for these patients. Nonspecific medical measures such as B_{12} injections, crude liver extract and saturation doses of ascorbic acid may all be tried.

A watching brief must always be kept on the electrolyte balance, particularly in the case of patients with large volumes of stool, for they may easily become potassium depleted.

Bed rest away from home is undoubtedly the most beneficial and the opportunity must be taken to get the fullest confidence of the patient and the best understanding of his personality and personal problems. It is a game of patience for all concerned, but time is on one's side.

PREVENTION OF RELAPSES

What can be done for the prevention of relapses? The importance of nervous and physical strain must be emphasized and some regular contact with the physician maintained so that there is some opportunity of reducing a developing emotional load. The patient should be warned against the use of strong aperients, and if a further barium enema can be arranged, the radiologist must be asked not to give an aperient beforehand. It has been noted that flare-ups may occur with the use of anticoagulant therapy (Banks and Klayman,[1] 1953), and with aureomycin when used during a quiescent phase. The internist should be consulted before any minor operation is undertaken and these should be avoided as far as possible. Dental extractions and injection of hemorrhoids are two not uncommon precipitating factors.

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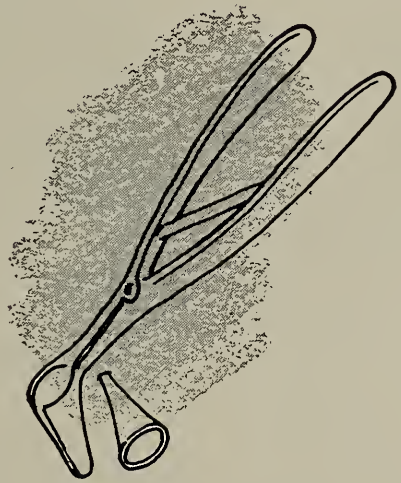
REFERENCES

1. Banks, B. M., Klayman, M. I.: N.E.J.M., Vol. 249, 3:91-95, July 16, 1953.
2. Counsell, P. B., Dukes, C. E.: Brit. J. Surg., Vol. 39, 158:1-11, May 1952.
3. Counsell, P. B., Lockhart-Mummery, H. E.: Lancet, pp. 113-116, Jan. 16, 1954.
4. Dukes, C. E.: Ann. Royal Coll. Surg. Eng., Vol. 14, 6:389-400, June 1954.
5. Groen, J.: Psychosomatic Med., Vol. 9, 3:151-173, May-June, 1947.
6. Kirsner, J. B., Palmer, W. L., Klotz, Arthur P.: Radiology, Vol. 57:1-14, July 1951.
7. Paulley, J. W.: Gastroenterology, Vol. 16, 3:566-576, Nov. 1950.
8. Rice-Oxley, J. M., Truelove, S.: Lancet, pp. 663-666, April 8, 1950.
9. Truelove, S., Witts, L. J.: Brit. M.J., Vol. ii, pp. 375-377, Aug. 14, 1954.
10. Warren, S., and Sommers, S. C.: Am. J. Path., 25:660, July 1949.
11. Wheelock, F. C., Warren, R.: N.E.J.M., Vol. 252, 11:421-425, March 17, 1955.
12. Zetzel, L.: N.E.J.M., Vol. 251, pp. 610-615, 653-658, Oct. 7 and 14, 1954.



Meningitis

A Review of One Year's Cases from an Active Children's Hospital Service

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THE RECENT FLURRY of reports[1, 2, 5-8] on the occurrence of subdural effusions in bacterial meningitis in childhood has implied a change in the course of these diseases since the advent of the chemo-antibiotic drugs. A survey of all cases of acute nontuberculous bacterial meningitis on an active pediatric medical service (Los Angeles Children's Hospital) for a period of 12 months (1952-53) was undertaken to determine the incidence of subdural effusions as well as the other immediate complications.

The frequency of each bacteriological agent, the age, incidence and mortality for each type of meningitis was reviewed as well as the kind of therapy and the effectiveness of it. During this period there were 56 patients with acute nontuberculous bacterial meningitis observed—2.3 per cent of all the patients admitted to the medical services for the period. Meningitis secondary to congenital defects such as myelomeningocele was excluded.

Table 1 shows the etiological organism, ages of patients, number of deaths and average length of hospitalization.

Table 2 lists the various complications observed during the acute illness or noted after short term follow-up. In a number of cases follow-up observation was not carried out, as the patients returned to the care of their own physicians. Also the question of various degrees of mental retardation and behavior changes cannot be ascertained with any real certainty after a short follow-up except where the defect is pronounced. Therefore the complications noted in Table 2 were for the most part those that occurred during the period of hospitalization.

The incidence of infection with the various organisms in the various age groups is shown in Chart 1.

• *Fifty-six cases of bacterial meningitides, other than tuberculous, observed in a period of one year on an active children's hospital medical service were reviewed. All age groups were involved but most commonly infected were patients in the first year of life. There was no inordinate incidence of infection with any one kind of organism in any specific age bracket, except possibly for infection with enteric organisms which in the present series occurred preponderantly in infants less than six months old. Meningococcus and H. influenza type B were the most common organisms; they were the infecting agents in 71 per cent of cases. Of the immediate complications noted, subdural effusions were the most common (23 per cent of this series). In all except two cases, effusion was resolved by multiple aspirations. In two cases craniotomy was done with good results. Ten electroencephalograms were made and all were abnormal. In most of the patients, multiple antibiotic and chemotherapeutic drugs were used, parenterally during the first few days of hospitalization and then orally as tolerated. Intraspinal therapy was not given. Four of the 56 patients died.*

DISCUSSION

Etiological Organism. The meningococcus (37 per cent) and H. influenza Type B (34 per cent) were the two most common organisms. In all the cases in which the organism was not identified, the patient had received antibiotic treatment before admission; but clinical features and results of spinal fluid examination were consistent with acute bacterial meningitis.

The frequency of the various etiological organisms in meningitis will vary apparently from time to time in the same geographical area as well as from one part of the country to another. Fothergill[3] surveyed two large series of meningitis cases at the Boston Children's Hospital. In a series of 705 cases (1920-1931) which included 290 cases of tuberculous meningitis (which incidentally was the largest single group), meningococcus and H. influenza ranked second and third respectively in frequency. Eliminating the tuberculous cases, meningococcus and H. influenza accounted for 57 per cent of the remainder. However, in another series of 221 cases (1933-36) reported by Fothergill from Boston Children's Hospital, H. influenza and meningococcus ranked first and fifth. Eliminating 31 cases of tuberculous meningitis from this series, H. influenza and

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TABLE 1.—*Data on 56 cases of nontuberculous bacterial meningitis*

Organism	No. of Cases	Age Variation	Deaths	Average Length of Hospitalization (days)
Meningococcus	21	2 mo. – 2½ yr.	1	24.1
H. influenza	19	3 mo. – 5½ yr.	1	22.6
Pneumococcus	4	8 mo. – 12 yr.	1	10
E. coli	3	2 wk. – 7½ mo.	1	19
Salmonella	2	6 wk. – 2 mo.		58.5
Proteus	1	4 wk.		86
Micrococcus	1	9 yr.		16
Undetermined	5	5 mo. – 8 yr.		18.6

meningococcus accounted for 41 per cent of the total remaining cases.

Age Incidence. The ages of the patients in the present series varied from two weeks to 12 years. Over half the cases occurred within the first year of life and 70 per cent within the first two years. With the exception of the enteric group there was no significant coincidence of age with the kind of organism. Five of six cases of the enteric group were in patients less than two months of age.

Fothergill and Sweet,[4] in discussing the age incidence of bacterial meningitis, reported that the majority of the cases occurred in patients under two and a half years. In H. influenza, the peak incidence was in the second half of the first year and 84.4 per cent of all H. influenza cases occurred during the first two and a half years. The youngest patient was two months of age. Meningococcic meningitis had its peak incidence in the second half of the first year of life and 72.2 per cent of all meningococcic cases occurred in patients less than two and a half years of age. The youngest patient was four weeks old. Of the pneumococcic cases, 70.4 per cent occurred in the first two years of life and the youngest patient was one day old.

In the present series there were four pneumococcic cases; and the youngest patient was eight months, the eldest 12 years of age. Interestingly, seven of nine cases of the enteric group in Fothergill and Sweet's series occurred in patients one to five weeks of age.

Deaths. Four of the 56 patients in the present series died. There was one death each due to meningococcus, H. influenza Type B, pneumococcus and E. coli. The meningococcus case was an 18-month-old infant who had been ill for ten weeks before admittance to hospital—measles (rubeola) complicated by encephalitis that was associated with convulsive seizures. The features of decorticate rigidity were observed clinically. At autopsy hydrocephalus, cerebral edema and chronic leptomeningitis were noted. The patient with E. coli meningitis had been treated with penicillin and terramycin at another hospital owing to a tentative diagnosis of urinary tract infection. An intravenous pyelogram at the time of admittance to Children's Hospital showed no abnormality. No fluid was obtained in early attempts at subdural aspiration, but later fluid was obtained from the left side. The patient with H. influenza was moribund on admission and died on the second hospital day. In the pneumococcus case the patient died 12 hours after admission. Two weeks earlier she had been seen in the outpatient clinic for acute respiratory tract disease and at that time she had had a febrile convulsion. Lumbar puncture was done but no abnormality was noted in the fluid. The patient was given 600,000 units of penicillin intramuscularly and then a triple sulfonamide preparation was given by mouth, 3 gm. per day in divided doses for four days. She received no chemoantibiotic drugs for meningitis from that time until after admission to the hospital.

TABLE 2.—*Complications that occurred in association with various infectious agents*

Organism	Subdural Effusions	Mastoiditis	Otitis Media	Pneumonia	Hydrocephalus	Thrombocytopenia Purpura	Post-Meningitic Seizures	Blindness	Spasticity	Mental Retardation	Abnormal Electro-encephalogram	Diarrhea
Meningococcus	4	1	2	1	1	....	....	....	2	1	3	1
H. influenza	4	....	1	....	....	1	1	....	....	....	5	....
Pneumococcus	....	1	1	....	....	....	....	....	....	....	....	....
E. coli	3	....	....	1	1	....	....	....	....	1	1	....
Salmonella	1	....	....	....	....	....	....	1	1	1	1	....
Proteus	....	....	....	....	1	....	....	....	....	....	....	....
Micrococcus	....	....	....	....	....	....	....	....	....	....	....	....
Undetermined	1	....	1	....	....	....	....	....	....	....	....	....
Total	13	2	5	2	3	1	1	1	3	3	10	1

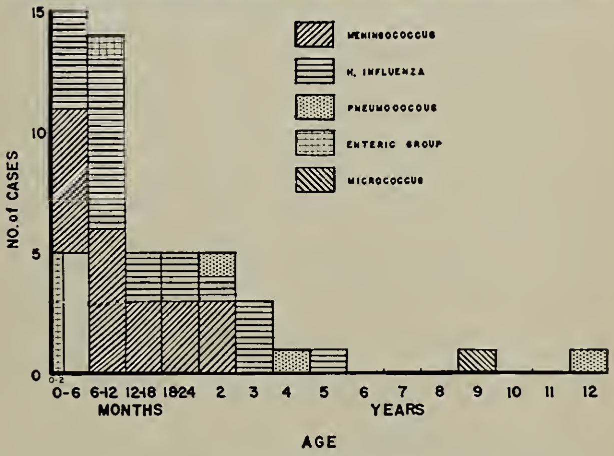

Chart 1.—Incidence of infection with the various organisms in various age groups.

Length of Hospitalization. This is not a reliable factor to judge severity of illness or efficacy of therapy, particularly where there are too few cases in some of the etiological groups. For example, a death occurring within a day or two of admission in a small group such as the pneumococcus group would result in a relatively short average length of hospitalization. Likewise, the regimen of clinic patients as compared with that of private patients varied somewhat. Often clinic patients were observed in the hospital for a week or more after completion of medication before being discharged, whereas private patients often were discharged as soon as medication was stopped, and then were observed at home by their private physicians.

Complications

(a) *Subdural Effusions.* Subdural effusion was the complication of highest incidence during the period of hospitalization. It occurred in 13 cases and was bilateral in seven, unilateral in six. All patients with effusions were nine months of age or less. Of the 19 patients with H. influenza Type B infection, four had subdural effusions, and four of the 21 with meningococcal infection had this complication. There were three patients with E. coli meningitis and all had subdural effusions. There was one Salmonella and one of the undetermined group that had effusions. Of the 13 of the patients with subdural effusions, only two (one with meningococcal and the other with H. influenza infection) had craniotomy with removal of the membranes. In the remaining cases the condition cleared with repeated aspiration except for one case (E. coli), in which the patient died. That patient had unilateral effusion.

(b) *Otitis Media and Mastoiditis.* Acute mastoiditis occurred in two cases. In one the organism was pneumococcus and in the other meningococcus. Both patients were treated conservatively with antibiotics and operation was not done. Otitis media was noted in five cases, in three of which the infection was meningococcic, in one pneumococcic and in one undetermined. In one meningococcic case with associated otitis media and mastoiditis, facial hemiparesis also occurred. In one pneumococcic case with otitis media and mastoiditis, there was associated acute ethmoid and frontal sinusitis.

(c) *Abnormal Electroencephalogram.* Electroencephalograms were made in ten cases, and all were reported abnormal. They were made for varying reasons—because of convulsions or poor response to therapy, or to look for evidence of subdural effusions. With meningitis alone an abnormal electroencephalogram would be expected. Since no serial electroencephalograms were done during the short period the patients were observed, no record as to improvement or lack of it in this series is available.

(d) *Hydrocephalus.* This complication was noted in three cases. In one the organism was meningococcus and the patient was 18 months old; in another the agent was E. coli and the patient two weeks old at onset of meningitis; and in the third proteus vulgaris at four weeks of age. In the meningococcic case hydrocephalus was observed at autopsy. In the case in which the organism was E. coli, the patient had unilateral subdural effusion.

(e) *Spasticity.* Spasticity occurred in three cases, one of Salmonella and two of meningococcic infection. In the Salmonella case there was also blindness and obvious mental retardation. One of the other two patients with spasticity died and at autopsy hydrocephalus, chronic leptomeningitis and cerebral edema were observed.

(f) *Miscellaneous.* There were two cases complicated by pneumonia. In one the organism was meningococcus and in the other E. coli. Diarrhea occurred in one case, that of a four-month-old infant with meningococcic meningitis. The same infant had unilateral subdural effusion and coincidental thrush infection in the mouth.

Thrombocytopenia purpura was noted in an infant with H. influenza meningitis. The platelet count was 23,000 per cubic mm. of blood. This patient also had postmeningitis seizures and an electroencephalogram was abnormal. Blindness was thought to be present in a two-month-old infant with Salmonella meningitis. The infant also had bilateral subdural effusions, gross mental retardation and spasticity.

Gross mental retardation was noted in three cases, one each due to meningococcus, E. coli and Salmonella. As was stated previously, lesser degrees of mental retardation were not noted on the charts or in the follow-up data on patients observed in private practice, which made statistics on this feature valueless.

Conservative Therapy. Medical therapy varied. Most patients, after the initial laboratory and spinal fluid examinations were performed, received penicillin, terramycin, streptomycin and sulfonamides. A few received aureomycin, chloramphenicol, erythromycin and magnamycin. Usually these drugs were given parenterally until the patient responded and could take them by mouth. Penicillin, however, in all instances was continued parenterally. Upon identification of the organism, the theoretically ineffective or least effective agents were discontinued. As a rule, most patients continued to receive at least two drugs throughout the illness, even those with meningococcic infection. No intrathecal medication was given. Medication was usually continued a week or more after fever had subsided or spinal fluid findings were definitely returning to normal. The specific dosages of the various drugs were as follows:

Penicillin. Dosage schedules varied from 300,000 units to 12,000,000 units per 24-hour period. The average was 1,650,000 units a day. However, the majority of patients received between 600,000 to 1,200,000 units a day. The average was boosted by the giving of massive amounts to a relatively few patients. The penicillin given was either aqueous or procaine. The time interval of doses varied from every two hours to once daily. In the majority of cases injections were given every 12 hours.

Sulfonamides. When parenterally administered the sulfonamide used was sodium sulfadiazine. The dosage for a 24-hour period varied from 0.15 gm. per kilogram of body weight to 0.33 gm. per kilogram. The average was 0.23 gm. per kilogram. When orally administered the sulfonamide used was, in the great majority of cases, a triple mixture—sulfadiazine, merazine and methazine. The dosage for 24 hours varied from 0.1 gm. per kilogram to 0.4 gm. per kilogram with an average of 0.25 gm. per kilogram. It was given in divided doses at four- to six-hour intervals.

Terramycin. The dosage of terramycin given intravenously varied from 27 mg. to 100 mg. per kilogram of body weight and the average was approximately 50 mg. per kilogram per 24 hours. When orally administered the amount of terramycin given in a 24-hour period varied from 25 to 150 mg. per kilogram with an average of approximately 70 mg. per kilogram. Most patients received the divided doses at six- to eight-hour intervals.

Streptomycin. All streptomycin was administered intramuscularly. The dosage for 24 hours varied from 31 to 110 mg. per kilogram of body weight. The average was approximately 50 mg. per kilogram. Most patients received it at 12- or 24-hour intervals.

Other Antibiotics. A very few patients received chloramphenicol, the average dosage being 62 mg. per kilogram in 24 hours.

Magnamycin was given both orally and intramuscularly at different times to one patient who had meningococcic meningitis with bilateral subdural effusions but later became secondarily infected with an enterococcus that was sensitive only to magnamycin and erythromycin. Magnamycin was given in divided doses totaling 60 mg. per kilogram for a 24-hour period. When given orally it seemed to induce vomiting and when given intramuscularly it caused pronounced local reaction as manifest by large nodules and an occasional sterile abscess. Erythromycin was also given this patient both intramuscularly and orally at different times, the dose averaging 30 mg. per kilogram per 24 hours.

Aureomycin was rarely given. In the cases in which it was used, the average dose was 40 mg. per kilogram per 24 hours.

Supportive treatment was administered as indicated. Adrenal cortical extract (usually Eschatin®) was given when patients were in shock. The dose varied from 5 to 10 cc., given intravenously, and was repeated as necessary. One infant received 50 cc. in 24 hours. The great majority of patients who received adrenal cortical extract had meningococcic infection, and of these over half were under eight months of age.

Blood transfusions and parenteral fluids were given as needed. Digitalis was administered in a few cases of cardiac failure.

Surgical Therapy. Two patients with subdural effusions were operated upon. One, in whom the infecting organism was H. influenza, had bilateral craniotomy. In the other, with meningococcic infection, only unilateral craniotomy was necessary, although bilateral effusions had been shown repeatedly on aspiration. Effusion on the side not operated on cleared with repeated aspiration. The results of operation were good; both infants were discharged apparently normal.

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REFERENCES

1. Arnold, G. G.: Purulent and serous subdural effusions in the course of purulent meningitis, J. Pediat., 39:191, Aug. 1951.

2. Epstein, J., and Goldzier, S.: Bilateral encapsulated subdural effusion complicating bacterial meningitis in infancy, Arch. Neurol. and Psych., 69:242, Feb. 1953.

3. Fothergill, L. D.: H. influenzæ meningitis and its specific treatment, N.E.J.M., 216:587, April 8, 1937.

4. Fothergill, L. D., and Sweet, L. K.: Meningitis in infants and children with special reference to age incidence and bacteriologic diagnosis, J. Pediat., 2:696, June 1933.

5. McKay, R. J., Jr., Morisette, R. A., Ingraham, F. D., and Matson, D. D.: Collections of subdural fluid complicating meningitis due to Hæmophilus Influenzæ (Type B), NE.J.M., 242:20, Jan. 5, 1950.

6. Ried, H. L.: Subdural effusions in pyogenic meningitis, Clin. Proc. Child. Hosp., 7:182, June 1951.

7. Smith, M. H. D., Dormont, R. E., and Prather, G. W.: Subdural effusions complicating bacterial meningitis, Pediat., 7:34, Jan. 1951.

8. Steinberg, S. H., and Murphy, J. P.: Subdural hygroma complicating meningococcic meningitis, J. Neurosurg., 8:671, Nov. 1951.

Distinctive Diagnostic Features of Material Aspirated from Marrow in Metabolic Bone Diseases

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• *In a series of cases of Paget's disease of the bone, two types of cells not previously described were observed in material aspirated from bone marrow in areas of osteitis deformans. One type was mononuclear, the other was giant, multinucleated and syncytial. They have been identified as osteoblasts and osteoclasts, respectively. The identification was based mainly on correlation with the histologic picture of osteitis deformans and of normal-growing bones as seen in section studies.*

Both osteoblasts and osteoclasts were recovered in aspirated bone marrow material in other instances of metabolic bone diseases associated with increased bone repair and bone resorption—in hyperparathyroidism, osteoblastic malignant lesions, rickets, hemolytic anemia in children, and in normal infants in the growth zone of bone in the tibia. They were not seen in senile and postmenopausal osteoporosis.

Recognition of osteoblasts and osteoclasts in smear preparations from aspirated bone marrow material may serve as a diagnostic aid in metabolic bone diseases.

The differentiation of osteoblasts from neoplastic cells is important in cases in which metastatic cancer of the bone is suspected and x-ray findings are inconclusive.

IN THE QUARTER of a century since examination of material aspirated from bone marrow became a routine hematologic procedure,[2] it has been used mainly in the investigation of hematopoietic activity, the blood-forming elements in the bone marrow being the subject of study.

The purpose of this paper is to describe studies in which it was noted that under certain conditions bone-forming elements may be identified in material aspirated from bone marrow.* It was noted that examination of specimens drawn from bone marrow may at times provide information concerning bone formation and bone resorption, and therefore may be of diagnostic value in certain metabolic bone disorders.

Bone is constantly being formed and resorbed, and both processes go on side by side at the same time. It is believed that bone is formed in two stages, the first being formation of matrix consisting of protein and mucopolysaccharides, and the second the impregnation of the matrix with calcium salts. On a surface where bone is being formed there is a microscopic layer (or seam) of osteoid tissue representing the extracellular, not yet calcified matrix laid down by the osteoblasts. Microscopically, osteoblasts are recognized as mononuclear cells which lie in rows over the osteoid seams. Later on, calcium (presumably dahlite) is deposited in the matrix to form calcified bone. On the other hand, on the surfaces where bone is being destroyed, osteoclasts are seen as giant multinucleated cells. Many authorities believe that osteoclasts represent foreign body giant cells clearing up the debris of organic matrix when inorganic salt is removed, as in decalcification of bone.

In the bones of adults there is, under physiologic conditions, an equilibrium between the rate of bone formation and bone resorption. This is reflected in the normal proportion of osteoblasts and osteoclasts. The various metabolic bone diseases may be viewed as specific disturbances of this equilibrium, and are associated with characteristic changes affecting the osteoblasts and osteoclasts. Accordingly, metabolic bone diseases can be studied and recognized on the basis of changes in the activity of osteoblasts and osteoclasts. The following examples illustrative of different types of abnormal calcification of bone may be considered:[1]

1. *Osteomalacia* (in children, rickets) is characterized by an increased number of osteoblasts. This condition is caused by a primary deficiency of deposition of calcium salts (vitamin D deficiency, etc.) and matrix formation is not affected. "The less resistant bone is subject to more stresses and strains" —the physiologic stimulus to osteoblastic activity characterized by an increase in osteoblasts.

2. *Hyperparathyroidism* is associated with increased osteoblastic and increased osteoclastic activity. In this disorder decalcification of bone is due to increased bone resorption and the picture is one of

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*The studies were begun in 1951 at the Montefiore Hospital, New York, in collaboration with A. Smelin, M.D. and A. Freedman, M.D.

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"osteitis fibrosa generalisata." First, an increased number of osteoclasts will be observed; then osteoblasts increase in number, presumably as a result of "usual stresses and strains applied to a decreased bone strength."

3. *Paget's Disease of Bone* (osteitis deformans) is characterized by simultaneous increase of osteoblasts and osteoclasts. However, in contradistinction to hyperparathyroidism, in which the bone lesions are generalized, osteitis deformans involves localized areas. It is believed that in this condition the initial lesion is produced by a localized factor causing bone destruction with production of large numbers of osteoclasts. The decalcified bone becomes "more susceptible to stresses and strains," and thereby osteoblasts are activated to lay down more matrix. Usually about half of the bone surface is covered with osteoblasts and about half with osteoclasts, reflecting the processes of bone resorption and bone destruction, respectively. Occasionally, however, only osteoclasts may be present. This may occur in immobilized (lack of osteoblastic stimulation) parts affected by Paget's disease with production of the picture known as "osteoporosis circumscripta."

4. *Osteoporosis* (of the postmenopausal or senile variety) is usually not associated with an increase of either osteoblasts or osteoclasts. Here the defect is associated with subnormal activity of osteoblasts, resulting in deficient matrix formation; and histologically there is evidence of reduced osteoblastic proliferation.

It is evident that the finding of changes in osteoblasts and osteoclasts and of alterations in their relative proportions may give valuable information in the differential diagnosis of certain metabolic bone diseases. (In clinical medicine, differential diagnosis of hyperparathyroidism from osteoporosis and of Paget's disease from metastatic cancer, may at times become difficult.)

About three years ago the author and co-workers examined a smear of material aspirated from the ilium, and as it did not contain any bone marrow elements, it was about to be discarded when a few clumps of unusual cells were noticed. The cells were described as "primitive reticulum-like blast cells, possibly neoplastic," but different from any tumor cells described in material aspirated from bone marrow.[4] Since the patient was known to have Paget's disease of bone, it was first thought that these cells might indicate sarcomatous change such as occurs occasionally in this condition (Paget's sarcoma). When one year later the same kind of cells were found on routine examination of aspirated bone marrow material in another case of Paget's disease, and no signs of malignancy had developed in the first case, it was felt that the cells derived from osteitis deformans tissue. This led to the systematic study of material drawn from bone marrow in ten consecutive cases of osteitis deformans. The same cells were recovered whenever material was aspirated from an involved bone (ilium), and were not found in specimens from uninvolved areas (sternum).

In cytologic examination of material aspirated from bone marrow in Paget's disease, two types of cells could be distinguished: (1) individual mononuclear cells, occurring singly or in clumps, identified later as osteoblasts; (2) multinucleated giant syncytial forms (some contained up to 100 nuclei), identified as osteoclasts. The mononuclear osteoblastic cells often appeared in large clumps, but even then they were easily differentiated from the multinucleated syncytial forms, for they always contained independent cytoplasmic borders. The morphologic characteristics of these cells were described in a previous paper.[5]

The mononuclear cells are large (25 to 50 microns in the greatest diameter), ovoid in shape, and generally have hazy ill-defined cytoplasmic borders. The nucleus, which is round and has a diameter of 12 to 16 microns, usually contains one or several clear blue nucleoli. The nucleus is characteristically located eccentrically and frequently appears to have been partially extruded from the cytoplasm. The latter may contain a central clear zone, around which a few azurophilic granules may be found. It may also give the impression of vacuolization.

The syncytial cell forms, found less frequently than the osteoblasts, may reach huge sizes (over 200 microns) and contain as many as 100 nuclei, but smaller forms containing only a few nuclei frequently are seen. It is possible that the latter are portions torn from the giant forms. The nuclei are of uniform size and appearance and often contain nucleoli.

Although osteoblasts and osteoclasts as seen in bone marrow smears have distinct morphologic characteristics distinguishing them from other bone marrow elements, they may at times not be readily recognized by persons not familiar with their appearance. Osteoblasts may seem to resemble plasma cells, reticulum cells or, especially when found in clumps, tumor cells. Osteoclasts may be confused with megakaryocytes. With experience, however, differentiation becomes easy.

Single osteoblasts (Figure 1) in great number and occasional clumps of osteoblasts were noted in bone marrow material in a case recently observed at Cedars of Lebanon. In that case, five years after the patient had had radical mastectomy for breast carcinoma, x-ray studies showed generalized decalcification of bone. Hence the possibility of osseous metastasis was considered. Unusual primitive-looking (possibly malignant) cells were reported to have

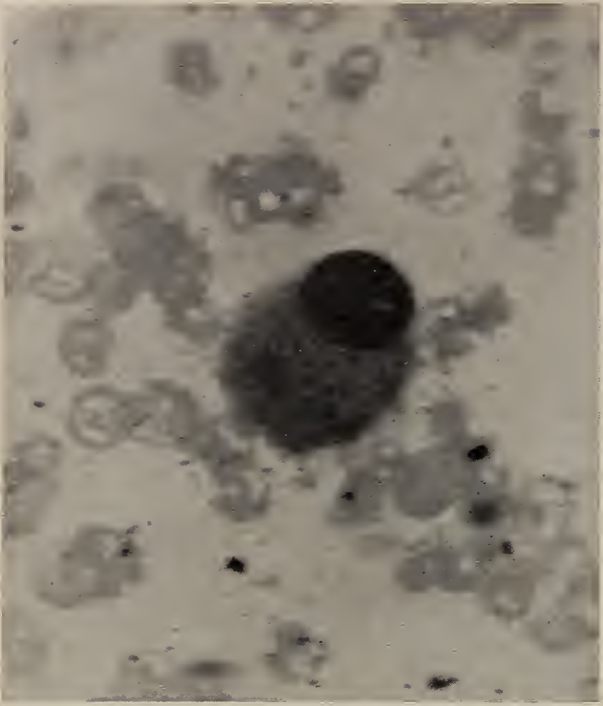

Figure 1—Single osteoblast (×800). Note "extruded" nucleus with clear nuclei; central clear zone, and fuzzy cytoplasmic borders. In the same bone marrow smear numerous such osteoblasts were seen in smaller and larger clumps.

been observed in material aspirated from bone marrow. These cells also appeared in larger clumps and simulated tumor cells. However, upon further examination of material it was noted that the cells had all the morphologic properties described for osteoblasts and they were finally identified as such. At the time of this report (six months later) the patient showed no signs of metastasis and was under study to investigate the cause of bone decalcification (possibly osteomalacia) and the role that the patient's prolonged immobilization might have played.

Figure 2 is a huge osteoclast seen in aspirated bone marrow material in a case of Paget's disease of bone observed at the Montefiore Hospital, New York. The material was aspirated from an involved area where the process of bone destruction was pronounced.

The identification of osteoblasts and osteoclasts is based on a correlation with the histologic characteristics of sections of bone marrow in osteitis deformans. Cells known to histologists as osteoblasts in bone marrow sections of Paget's disease correspond exactly to the mononuclear forms herein described, whereas the syncytial forms described here resemble closely the cells known as osteoclasts. Such identification is supported further when these cells are compared with the histologic appearance of growing bone where numerous osteoblasts can be seen, such as in zones of growth in infants or in areas affected by rickets. The cytologic details of osteoblasts and osteoclasts may be seen more clearly when examined in smear preparations than in tissue sections.

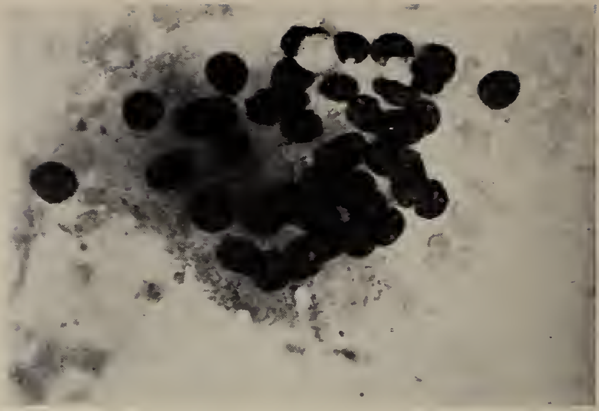

Figure 2.—Syncytial cell form of a huge osteoclast (×770). Smaller osteoclasts containing a few nuclei were also seen in the same smear.

That the cells described herein were not previously generally recognized is probably owing to the fact that usually the material for hematologic examination is aspirated from the marrow of the sternum, whereas the author and his co-workers routinely took material for this purpose from the ilium.[6] Paget's disease rarely involves the sternum, but involves the pelvis frequently. Another possible reason for the delay in identification of these cells is their resemblance at first glance to reticulum cells and plasma cells. Of the various cells in bone marrow smears hitherto labeled as reticulum cells, one variety may be singled out and recognized as osteoblasts.[5]

In further studies, attempts were made to find osteoblasts and osteoclasts in bone marrow in conditions other than Paget's disease that are known to be accompanied by increased osteoblastic and osteoclastic activity. Physiologically, such increased activity occurs in the growth zone of infants' bone and at the site of fracture undergoing repair. Pathologically, it may occur in rickets, in primary and secondary hyperparathyroidism, in osteoblastic malignant disease and in certain kinds of blood dyscrasia that are associated with trabeculation of bone, such as certain osteosclerotic anemias and sickle cell anemia.

SUMMARY OF OBSERVATIONS

Following is a summary of observations with regard to osteoblasts and osteoclasts seen in material aspirated from bone marrow in association with metabolic diseases of bone:

1. *Paget's Disease of Bone* is characterized by the fact that (a) both osteoblasts and osteoclasts may

be found in aspirated bone marrow material, and that (b) these cells may be recovered only when the material is aspirated from involved areas. Material from uninvolved sites (sternum) is of normal composition. The number of osteoblasts and osteoclasts and their relative proportion in material aspirated from bone marrow depends on the stage of the disease and the degree of bone involvement. When there is pronounced involvement, there are no hematopoietic elements observable in the material and it contains only osteoblasts and osteoclasts. Osteoblasts are most numerous when bone repair is going on apace, while osteoclasts are predominant in the stage of "osteoporosis circumscripta."

Bone marrow studies in Paget's disease are of diagnostic importance in cases where the roentgenologic opinion is uncertain as between osteitis deformans and metastatic malignant disease. (In two of four doubtful cases in which studies were done, the finding of osteoblasts in bone marrow aspiration and the differentiation of them from tumor cells indicated Paget's disease—a diagnosis that was confirmed later histologically.)

2. In hyperparathyroidism osteoclasts are in general more numerous than in Paget's disease. Osteoclasts as well as osteoblasts may be found in material aspirated simultaneously from different sites (ilium, sternum) according to the generalized nature of the pathologic changes in bones. This was seen in a case of apparently primary hyperparathyroidism and in another instance of secondary hyperparathyroidism.

The absence of these cells is of diagnostic importance in osteoporosis (senile, postmenopausal), a condition regarded as due to deficient matrix formation or as possibly due to disturbance of protein metabolism. When biochemical studies are not decisive in the differentiation between hyperparathyroidism and osteoporosis, bone marrow studies may provide contributory information. In addition, serial bone marrow studies in hyperparathyroidism may be helpful in gauging the effectiveness of treatment.

3. In osteoporosis (postmenopausal, senile) material aspirated from bone marrow was of normal composition so far as hematopoietic elements are concerned, and no osteoblasts or osteoclasts were seen for reasons previously explained. In two cases of osteoporosis, neither osteoblasts nor osteoclasts were observed in material aspirated from bone marrow in the involved areas (spinous process).

4. In normal infants the author has often seen osteoblasts in material aspirated from the marrow of the tibia. In addition, in a review of the literature two independent reports were found that told of the observation of mononuclear and syncytial forms closely resembling those described in this paper (osteoblasts and osteoclasts) in bone marrow aspirated from growth zones of the long bones in normal children, and of such cells in greater number in rachitic children.[3]

5. In a miscellaneous group of conditions associated with osteoblastic bone reactions, osteoblasts were occasionally found in material aspirated from bone marrow. These conditions included Mediterranean anemia, sickle cell anemia, osteosclerotic anemia, an occasional case of aplastic anemia with myelofibrosis and osteoblastic metastatic cancer. In clinical investigations, evidence of pronounced osteoblastic bone reaction is usually found associated with a characteristic roentgenologic picture, as in Cooley's anemia or advanced osteosclerosis. Recovery of osteoblasts in aspirated bone marrow may possibly provide information of value at an early stage of the disease.

There are in the literature reports concerning the occurrence of reticulum cells or plasma cells in aspirated bone marrow material in some of the conditions mentioned above. It is possible that this is due to the mistaking of osteoblasts for reticulum cells or plasma cells. Indeed, the author in reviewing a series of old slides often had to correct the previous report on a slide, recognizing cells as osteoblasts instead of tumor cells, reticulum cells or plasma cells as had been reported the first time the slide was examined. In one case, an earlier diagnosis of metastatic malignant disease was changed to Paget's disease on the basis of a revised opinion regarding the cells found in the bone marrow material.

A serious error may be made when osteoblasts are mistaken for tumor cells. In several instances in which a diagnosis of metastatic malignant disease was made because bone marrow material was reported to contain malignant cells, the cells were later identified as osteoblasts and not as tumor cells when the specimen was reexamined.

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REFERENCES

1. Albright, F., and Reifenstein, E. C.: The Parathyroid Glands and Metabolic Bone Disease, The Williams and Wilkins Co., Baltimore, Md., 1948.

2. Arinkin, J.: Die intravitale Untersuchungsmethode des Knochenmarks, Folia haemat., 38:233, 1929.

3. Esser M. Osteoblasten und Osteoklasten in Knochenmarkaustrichen, Helvt. med. acta, 12:265, 1945.

4. Rubinstein, M. A., and Smelin, A.: Neoplastic cells in bone marrow aspiration, Arch. Int. Med., 89:909, 1952.

5. Rubinstein, M. A., Smelin, A., and Freedman, A.: Osteoblasts and osteoclasts in bone marrow aspiration, Arch. Int. Med., 92:964, 1953.

6. Rubinstein, M. A.: Aspiration of bone marrow from the iliac crest, J.A.M.A., 137:1281, 1948.

The Surgical Treatment of Melanoma

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• Some melanomas arise from compound and junctional nevi. Since there is a relatively high incidence of malignant diseases on the soles of the feet and the genitalia, routine removal of nevi developing in those areas is recommended.

"Juvenile melanomas" are active, cellular nevi occurring in prepubertal children. The clinical course is probably benign.

The tenet of excision and dissection in continuity where feasible of the primary melanoma and the regional lymph nodes is reemphasized. When continuous dissection is not possible, regional node dissection is recommended as a separate procedure.

Major amputations for melanomas of the extremities are not recommended for the usual case.

MANY NEW SUGGESTIONS and methods for the treatment of malignant melanoma have been brought forth in the past decade. The impetus has come from the high mortality rate of the disease and from recent critical histologic studies of nevi, moles and melanomas[1, 2, 3, 8] that have caused surgeons to reexamine the logic of their approach.

There is little doubt that melanomas frequently arise from nevi of junctional or compound type. Once a melanoma is beyond this beginning stage, it is safest to consider it "advanced" even though it be termed "superficial" or "early." Incredible as it may seem, even a small, superficial, low grade melanocarcinoma may give rise to widespread metastasis. The frequency of melanoma on the soles of the feet and the external genital organs and the infrequency of moles or nevi in these areas leads one to suspect the greater hazard of moles in such regions and would seem to suggest routine removal of them.[6] This practice may conceivably be applied to any area where the mole is aggravated by local factors. Such an excision is a minor matter and prophylactic in nature. Therapy of a melanoma, however, requires wide and deep surgical removal, frequently in continuity with regional node dissections.

The puzzling observation that malignant melanoma is rare in prepubertal children has created the problem of the so-called "juvenile melanoma." These are pigmented moles which bear such a close histologic resemblance to malignant melanoma that in some cases it is not possible to distinguish between the two.[4, 8] However, rarely if ever is there metastasis from such lesions, and for all practical purposes they can still be classified as nevi and their management may be conservative. Lesions of this histologic type occurring in a patient at or beyond puberty, however, are most likely malignant and a more extensive operation is demanded. True melanoma has been reported in five children, but it is felt that the tumors in each of these instances differed from the benign "juvenile melanoma."[2, 9]

Consistent with good surgical treatment of melanomas is the prevailing tenet of wide and deep excision.[7] The guiding reason for these broad margins is the very high incidence of local recurrences and the surmise that these recurrences are due to metastatic emboli lying dormant in the cutaneous and subcutaneous lymphatic or venous channels. Allen and Spitz[2] expressed belief, however, that the great majority of recurrences are the result of junctional foci that have been incompletely removed or have been activated subsequent to local excision. Regardless of the cause, proper treatment requires wide excision where feasible, often necessitating a skin graft to cover the surgical defect. When the melanoma occurs in an area of the body close to a lymph node group—the neck axilla or groin—it is possible to include a wide block of tissue with deep undermining and the adjacent lymph nodes in one continuous dissection. These regions are termed the "critical areas," as outlined in Figures 1 and 2, and such a resection there is both reasonable and practical. However, if the primary tumor is on the sole of the foot or the lower forearm or the back, continuous dissection is not possible and the divided procedure of wide local removal and regional node dissection of the axilla or groin must be used. There does not appear to be any advantage in waiting two weeks between removal of the primary melanoma and excision of the lymph node group, or of removing a narrow strip of skin between primary tumor and nodes, the length of an entire extremity, on the supposition that it contains the involved intervening lymphatic pathways.

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Submitted March 10, 1955.

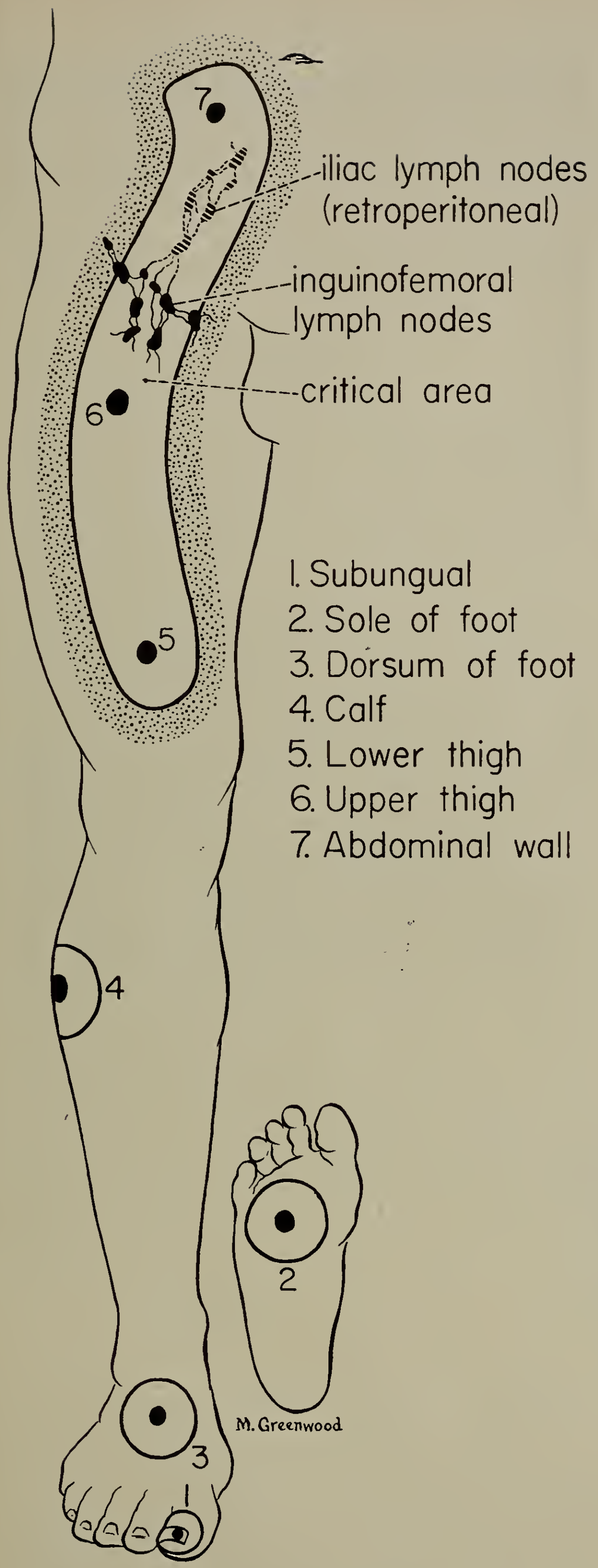
7
iliac lymph nodes (retroperitoneal)
inguinofemoral lymph nodes
critical area
6
5
1. Subungual
2. Sole of foot
3. Dorsum of foot
4. Calf
5. Lower thigh
6. Upper thigh
7. Abdominal wall
4
2
3
1
M. Greenwood

Figure 1.—Melanomas situated at sites 1 through 4 are treated by wide excision and secondary groin dissection; melanomas at sites 5 through 7 by continuous dissection which includes the lymph node basin. Dotted area shows the wide undermining utilized. An ellipse of skin as outlined is usually resected as well.

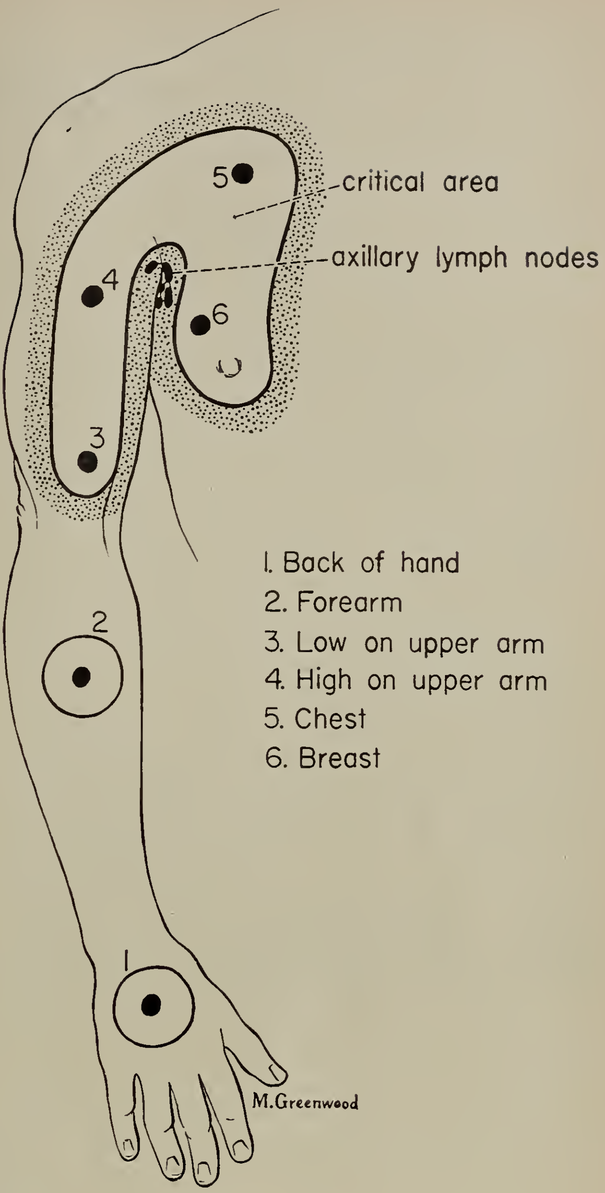
5
critical area
axillary lymph nodes
4
6
3
1. Back of hand
2. Forearm
3. Low on upper arm
4. High on upper arm
5. Chest
6. Breast
2
1
M. Greenwood

Figure 2. — Diagrammatic outline showing similar method of treatment of melanomas of the arm or upper anterior chest wall.

Occasionally the melanoma may be situated in the midline of the back, the abdomen or the neck, or midway between axilla and groin, so that involvement of two node groups by metastasis is likely. Should this be the case there is some doubt as to the beneficial effect of dissecting both node groups at one time in continuity with the primary tumor. An alternative procedure of watchful waiting, reserving excision of the lymph nodes for the time when there is a suspicion of metastasis, would seem to be more practical. However, if metastasis to the nodes has already occurred, dissection of both groups in continuity with the primary lesion, if feasible, is still the logical course to pursue.

The value of a regional node dissection, even when not performed in continuity with the removal of the primary tumor, is apparent to anyone who is familiar with the occult nature of metastasis in normal-appearing lymph nodes or who has seen lymph nodes in the groin or axilla suddenly enlarge two and three years after the primary tumor is removed. Often in such cases the enlargement precludes clean removal. Of greater importance is the fact that regional node dissections put up a block or dam, admittedly temporary, against rapid, widespread dissemination. In these instances the recurrences now frequently appear as intracutaneous or subcutaneous nodules proximal to the lymph node bed, and can be locally removed without too much change in overall prognosis—certainly with a better prognosis than if the first sign of recurrence were enlarged axillary or inguinal lymph nodes. As a general rule, therefore, regional node dissection is well worth the slight increase in surgical morbidity.

Major amputations for melanomas of the extremities, although theoretically in keeping with the principles of cancer surgery, have as yet to determine whether they will cure more patients than the divided procedure of local excision and regional node dissection. It must be admitted, in light of the fact that often in the case of melanoma there is early venous invasion, that sacroiliac disarticulation (hemipelvectomy) and interscapulothoracic (forequarter) amputations appear to be very serious therapy, considering the generally poor prognosis. This is especially so since the majority of cures from melanoma are in that group in which local excision and regional node dissection will suffice.

Melanoma is not a certainly fatal disease and a pessimistic attitude is to be condemned. In one large series[5] the five-year survival rate of all patients, regardless of stage, was 21 per cent. The five-year survival rate was 14 per cent for patients with lymph node metastasis at the time of operation and 40 per cent for those without lymph node metastasis.

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REFERENCES

1. Allen, A. C.: A reorientation on the histogenesis and clinical significance of cutaneous nevi and melanomas, Cancer, 2:28-56, Jan. 1949.

2. Allen, A. C., and Spitz, S.: Malignant melanoma, Cancer, 6:1-45, Jan. 1953.

3. Catlin, D.: Melanomas of the skin of the head and neck, Ann. Surg., 140:796-805, Dec. 1954.

4. McWhorter, H. E., Figi, F. A., and Woolner, L. B.: Treatment of juvenile melanomas and malignant melanomas in children, J.A.M.A., 156:695-699, Oct. 1954.

5. Pack, G. T., Gerber, D. M., and Scharnagel, I. M.: End results in the treatment of malignant melanoma, Ann. Surg., 136:905-911, Dec. 1952.

6. Pack, G. T., Lenson, N., and Gerber, D. M.: Regional distribution of moles and melanomas, Arch. Surg., 65:862-870, Dec. 1952.

7. Pack, G. T., Scharnagel, I., and Gerber, D. M.: Treatment of malignant melanoma of the skin, Surg. Clinics of N. A., 34:517-527, April 1953.

8. Spitz, S.: Melanomas in childhood, Am. J. Path., 24:591-609, May 1948.

9. Williams, H.: Melanoma with fatal metastases in a 5-year-old girl, Cancer, 7:164-168, Jan. 1954.

Methodology in Medical Research

The Need for Controlled Clinical Studies

ROBERT A. HALL, *M.D.*, Agnew

• *Too many medical researchers vitiate their work by ignoring the problem of uncontrolled variables. They therefore publish clinical impressions "dressed up" in scientifically meaningless numbers. A prototypical example of this practice is contrasted with a controlled study, each employing the same (small) number of patients. It is shown how the use of controls can convert a meaningless experiment into one that has assessable scientific significance.*

A survey of current literature revealed that in only 21 of 100 articles studied were adequately controlled experimental conditions employed.

Since they usually deal with very complex systems, it is urged that medical researchers exercise more scientific rigor with regard to control problems.

A SINE QUA NON of the scientific method is the principle of control, namely, that in order to evaluate the effect of one variable factor in an experimental situation, one must hold constant all other variable factors.

Among physical scientists, the application of the principle of control is almost automatic, ingrained, inviolable. In published medical research, however, a regrettably frequent lack of attention to this principle may be noted.

Medical researchers, notably those who publish reports of work in clinical fields, too often vitiate the fruits of their labors by not maintaining adequate controls. They lose the opportunity of bringing forth solid scientific facts; instead they too often produce something little removed from "clinical impression." This is not to detract from the importance of the clinical impression, which is most necessary and valuable, but as a stimulus for systematic scientific research by which it can be substantiated or disproven, not as an end in itself. Too frequently such impressions, window-dressed with a few numbers, serve to stimulate great and often tragic optimism on the part of the unwary. It is a medical aphorism that "every new drug works—for a while."

A typical, familiar situation is one such as this: Dr. X, a clinician, studies the efficacy of a new drug or procedure on a group of patients who have some more or less well-defined condition. He sets up criteria for evaluating their response. He then reports something like this:

	No. Patients	Per Cent
Improved	16	80
Unimproved	4	20
Total	20	100

What do these results mean to us? We see that 80 per cent of his patients improved. It looks like a promising treatment, *maybe*. But why maybe?

Well, we ask, how many of these patients would have improved without any treatment? How much responsibility for the result can we attribute to variations in the auxiliary treatment, to the treatment factors other than the one on which Dr. X has focused his attention? How can we estimate the possible psychotherapeutic effect on these patients of merely having been given a "new treatment," as well as the impact of Dr. X's personality? Can Dr. X feel sure that his evaluation of improvement was unaffected by his enthusiasm for the treatment? One could go on listing many more uncontrolled variables, any one or combination of which may have been the actual cause of the observed results.

The treatment under study may have been beneficial, harmful, or ineffective. Unfortunately, we will never know in a factual scientific sense—at least not from the data given us.

SIMPLE CLINICAL CONTROLS

How could Dr. X have put us on more solid ground? He could have used one or both of two commonly employed control methods:

1. *Control Group Method.* Make a random distribution of homogeneous patients into two groups, approximately equal in size. As far as possible, treat and evaluate each group *exactly alike*, except in respect to one thing: the treatment in question. Placebos are often essential to provide the latter. After obtaining the results, statistically analyze the probability of the observed differences between groups being due to chance alone.

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Submitted January 28, 1955.

2. *Longitudinal Method.* Use each patient as his own control. Observe the patient during a control period, then during alternate periods of receiving drug and placebo. Evaluate results statistically when possible. Obviously, this method can be best applied in conditions which are more or less chronic and stable.

It is often possible to set up either method to include the double blind control technique. This involves designing the experiment so that neither patients nor observers know which patients are "controls" and which are "experimentals." Rarely can one feel that the psychological factors in subject and observer are controlled if this is not done.

In regard to the control group method, when it is difficult to assemble or handle large numbers of cases, the great temptation is to use few or none as controls. But even with few total patients, it is worth while to follow the method. Let us see what Dr. X might have done with the same amount of clinical material and very little extra effort.

Suppose Dr. X had made a random distribution of his 20 cases into two equal groups. In every respect he could think of, he had handled each group exactly alike, except that the patients of the control group received a placebo instead of the treatment under study. He had set up a system whereby he did not know himself to which group a particular patient belonged until after he had finished evaluating the whole series. He then reported as follows:

	Treated		Controls		Total	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Improved	5	50	0	0	5	25
Unimproved	5	50	10	100	15	75
Total	10	100	10	100	20	100

This time we see that only one-half of the treated group was helped. At first glance we are not as much impressed as we were with the data as previously reported. But then we look at the control group and find that *none* of them improved.

Is it possible that Dr. X happened to give the drug to a group of patients who were going to improve regardless of the treatment? Could the patients in the control group have been the sicker ones? In other words, could the observed differences between the groups have been due to chance alone?

We use a simple statistical procedure* and discover that there is less than five chances in a hundred that such a difference could have occurred by chance alone. Now we are much more impressed by the second study. This is a definite and positive result. We know where we stand. We know to what degree the treatment deserves further trial.

These matters are very elementary. It would seem that hardly anyone would argue against the desirability of clinical investigation following controlled methods. One would hesitate to submit such a communication as this to a scientific journal were it not that disregard of the control principle is so commonplace. One can hardly pick up a clinical journal without finding one or more examples. To evaluate this latter "clinical impression," the following literature survey was pursued.

TABLE 1.—*Distribution, as to type, of 36 journals included in study*

GENERAL
1. J.A.M.A.
2. Lancet
3. New England J. Med.
4. Am. Pract. & Digest Treat.
5. New York J. Med.
6. Geriatrics
7. J. Clin. Invest.
8. California Med.

SURGERY
1. Am. J. Surg.
2. J. Internat. Coll. Surgeons
3. West. J. Surg.
4. Surg., Gynec. & Obst.
5. J. Urol.
6. A.M.A. Arch. Surg.
7. J. Neurosurg.
8. J. Bone & Jt. Surg.

PSYCHIATRY AND NEUROLOGY
1. J. Nerv. & Ment. Dis.
2. Psychosom. Med.
3. A.M.A. Arch. Neurol. & Psychiat.

OPHTHALMOLOGY
1. A.M.A. Arch. Ophth.
2. Am. J. Ophth.

INTERNAL MEDICINE
1. Ann. Int. Med.
2. Am. Rev. Tuberc.
3. Am. J. Digest Dis.
4. J. Allergy
5. A.M.A. Arch. Int. Med.
6. Am. J. Trop. Med.
7. Circulation
8. J. Endocrinol.
9. Am. J. Syph.
10. Am. Heart J.
11. A.M.A. Arch. Dermat. & Syph.

PEDIATRICS
1. Pediatrics
2. J. Pediat.

ANESTHESIOLOGY
1. Anesthesiology

RADIOLOGY
1. Am. J. Roentgenol.

A SURVEY OF CLINICAL JOURNALS

Copies of 1954 issues of the clinical journals present in the library of a teaching general hospital† were surveyed. Considered for the present study were those original articles in which controlled conditions seemed clearly indicated to substantiate the *stated conclusions* of the authors. Review papers, single case reports, and preliminary reports (which were clearly such) were eliminated.

There was no selection of the journals reviewed. The issues examined were chosen at random. The reviewing was continued until 100 pertinent articles were collected. This required covering two issues of most journals and three issues of some.‡

Thirty-six journals became involved in the study. The distribution by type of journal is shown in Table 1.

Each pertinent article was categorized as having adequate, inadequate, or no controls. The categories were defined as follows:

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*Chi Square.

†Santa Clara County Hospital.

‡Some journals, and some issues of other journals present in the particular library did not become involved, however, since the issues on the shelves at the time contained no articles which fulfilled the above stated criteria.

Adequate Controls:

Every possible attempt is made to control all variables but the one in question.

Use of a sufficiently large control group (usually about equal in number to the experimental group).

Random distribution of reasonably homogeneous cases among experimental and control groups.

"Double-blind" placebo method where possible.

Adequate exploitation, when used, of the "longitudinal control method." This includes considerable periods of evaluation of patients to observe conditions before treatment, and during drug and placebo periods. (Ideally, this approach should be combined with control group method, when possible, but this was not considered a required criteria.)

Inadequate Controls:

Failure to observe one or more indicated elements of the above criteria for adequate controls.

No Controls:

No observance whatsoever of control principles.

The results of the survey of the 100 articles were: Adequate controls, 21; inadequate controls, 30; no controls, 49. Only about one study in five was well controlled and nearly one-half were entirely uncontrolled.

A few illustrative examples will be given of each category of paper found in the survey.

Adequate Controls: A study of the value of allergic treatment for asthma and hay fever used large and nearly equal control and experimental groups. Drug and placebo administration and the clinical evaluation were done by the double blind method.

Wolf and Pinsky,[1] not only conducted a good double blind controlled experiment in a study of the therapeutic value of mephensin, but made the very provocative finding that not only were the therapeutic results indistinguishable, but drug and placebo produced identical toxic results. Such findings should set us on our guard.

Inadequate Controls: A paper concluded that people who have rage reactions show more abnormal electroencephalograms. It does not give the number of cases involved and, although controls were used, there is no indication that the electroencephalogram records were evaluated blindly.

A study of the effectiveness of intra-articular hydrocortisone in arthritis involved giving placebos to only 13 of the 88 patients involved. There was no indication that the groupings were made at random or that the results were evaluated blindly.

The response of patients with hypertension to a drug were studied, using a pretreatment control period of observation. However, no periods of placebo administration or a blind evaluation were employed.

Patients used in a study which concluded that prefrontal lobotomy was effective were selectively assigned to experimental and control groups. No placebo surgical treatment was given to the control patients, and the results were not evaluated blindly.

No Controls: One author found cortisone "effective" in rheumatic carditis after merely administering the drug to a small, selected group of patients. There was no control group or control observations, nor could the reader detect any attempt to safeguard the objectivity of the evaluation.

Isoniazid was concluded to be effective in the treatment of 65 heterogeneous psychotic patients who were not compared to any control group or to their own status while on control observation or period of placebo administration.

DISCUSSION

Biological systems are ordinarily of great complexity due to the constant operation of great numbers of independent and interrelated variables, with various complex levels of integration. Biological organizations are superimposed on chemical and physical organizations. In many respects the worker in biological fields must deal with *more* complex systems than those which confront, for example, the physicist or chemist.

A competent worker in the "pure sciences" would usually not in his wildest moment publish (or have accepted for publication) a study in which control problems were ignored. How can we hope to make sense out of our medical problems if we use less and not more scientific rigor than physical scientists?

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REFERENCE

1. Wolf, S., and Pinsky, R.: Effects of placebo administration and occurrence of toxic reactions, J.A.M.A., 155:339, May 22, 1954.

Verruca Plantaris

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• *Various methods were used in the treatment of 451 patients with verruca plantaris who were observed for a period of nine months after treatment. Results obtained by the various methods were as follows:*

	No. Patients	Cured	
		No.	Per Cent
Electrocautery	35	24	64
Trichloroacetic acid and 40% salicylic acid plaster	56	36	65.3
20% podophyllin	43	26	64.2
Local injection of 1% procaine	70	34	48.5
Liquid nitrogen	62	48	78.7
Carbon dioxide snow	48	31	64.4
X-ray therapy	83	61	73.4
Euphorbium resin	54	39	72.2
Controls	63	3	.047

TODAY THE STATUS of the therapy of plantar warts is, as it was before the era of so called modern medicine, unsatisfactory. The number and the variety of types of therapy advocated by numerous investigators bear witness.

The incidence of plantar warts probably is much greater than most physicians suspect. By direct questioning and examination of the feet of each patient visiting a dermatologic clinic for other reasons, it was found that one in every 26.3 persons had a plantar wart at the time; and in young active male military personnel one in every 16.7 persons had a plantar wart at the time of examination. Many of the persons who had plantar warts said that they had been treated without success and that, as the treatments were usually as painful as the wart, they just tried to ignore its presence. Others who had warts thought they had callous formation, and some of them bought pads or special shoes to relieve discomfort, usually without success.

Since 1950 the author has kept complete records of all cases of plantar warts observed by him and has attempted follow-up observation of patients for at least nine months after treatment. Personal observation was carried out when possible, and reports of other physicians were used when personal observation was not possible. Note was made of objective and subjective symptoms at three, six and nine-month intervals after therapy. Up to May 1954, records of 451 patients who had been observed three times were available.

The methods of therapy used and the number of patients treated with each method were as follows:

1. Electrocautery, with excision of area by wire loop	35
2. Trichloroacetic acid and 40 per cent salicylic acid plaster	56
3. Twenty per cent podophyllin in tincture benzoin and salicylic acid plaster	43
4. Local injection of 1 per cent procaine into the wart	70
5. Liquid nitrogen at weekly intervals	62
6. Carbon dioxide snow at weekly intervals	48
7. X-ray therapy	83
8. Euphorbium resin at 48-hour intervals	54
	451

These eight types of therapy were selected as being most nearly representative of the methods currently used and reported in the literature to be successful. It is realized that there are many other procedures which probably give results as good or better, but it was impossible to include them.

The term "cure" as used in this paper means complete relief of symptoms for a six-month to nine-month period without recurrence of the verruca in the treated site.

Electrocautery[5]

Treatment of plantar warts with the use of cutting current and a wire loop which is inserted into the wart, after use of a local anesthetic agent, and rotated 180 degrees is a procedure that has long been used and still has many advocates. This method was used in 35 cases in the present series. All patients were kept off their feet for three days after the treatment and those in the military service were unable to return to full duty for a period of 15 to 30 days. All patients complained of the pain for many days following the operation and several said they would much rather have "kept the wart."

In seven cases recurrences developed at the site in less than 90 days and in two other cases within nine months. One patient had a very painful scar at the site of operation after the wound was healed.

In view of the rather high incidence of recurrence this mode of therapy was not used further and it is considered to be the least desirable of the accepted modes of treating plantar warts.

Trichloroacetic Acid and Salicylic Acid Plaster

Modifications of trichloroacetic acid therapy with or without the salicylic acid plaster have been used for many years. Trichloroacetic acid is prob-

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Submitted July 24, 1954.

ably no better than any other destructive agent such as silver nitrate or phenol. The 40 per cent salicylic acid plaster is a valuable supplement and it can be used by the patient between treatments after only minimal instructions as to how it should be applied.

Fifty-six patients were treated by this method in the present series. Thirty-six were deemed cured, 31 of them in four treatments and five in five treatments. In 20 cases seven treatments were given and the result was classified as a failure. The cure rate was with five recurrences over a nine-month period.

In view of the necessity of repeated treatments at weekly intervals and the resulting tenderness of the treated areas, it is difficult to keep the patients returning for the required number of treatments. Therefore it is not regarded as one of the preferable methods of therapy.

The use of 20 per cent podophyllin in tincture of benzoin and 40 per cent salicylic acid plaster was used in 43 patients and the cure rate was 64.2 per cent. This only added to the conviction that any destructive agent will give about the same results. Podophyllin is specific in the therapy of verruca accuminata, however.

Injection with 1 Per Cent Procaine[1]

In 1951 Branson[1] first reported dramatic relief in verruca plantaris after injection of 1 per cent procaine. Branson and Rhea[2] later amplified the report of this method.

The reports stated that the method was painless and the results excellent. The procedure involves the injection of 2 or 3 cc. of 1 per cent procaine into the base of the wart, using a 26-gauge needle and a Luer dental syringe. Branson and Rhea postulated that cure results from ischemic necrosis.

Seventy of the patients in the present series were treated by this method, beginning in 1952 and continuing to the time of this report. The results did not match those of Branson and Rhea.

First of all, it soon became apparent that this is not a painless mode of therapy. All patients objected to the initial pain of the injection, which lasts up to about three minutes before the procaine "deadens" the area. This pain and the presence of the needle make it impossible to treat most children, and many women say they will not again tolerate the procedure.

A syringe of the cartridge type is by far superior to the Luer syringe when injection of the plantar aspect of the foot is done, for less effort is required on the part of the operator.

Of the 70 patients treated 34 were cured. Ten required only one injection and 24 needed two injections. In 36 cases treatment was considered a failure after five injections. Thus the cure rate was 48.5 per cent. It was impossible to obtain more than a few hours of relief in cases in which the wart did not disappear.

In view of the possibility that the base of the wart was not being properly infiltrated as Branson and Rhea said is necessary, the author obtained the services of an anesthesiologist to make the injection in 25 of the cases. The results were unchanged.

Liquid Nitrogen Therapy

A cotton-tipped applicator dipped in liquid nitrogen and applied with pressure for 30 to 90 seconds to the pared wart was used in 62 cases. The treatment causes pain both during and after the application for a period varying from 30 minutes to two days depending on the amount of pressure exerted and the length of time applied. Patients described the sensation as "burning" in nature and more intense than that of carbon dioxide snow. This can probably be explained on the greater tissue reaction obtained by the difference in temperature: The temperature of liquid nitrogen is minus 183° C. and of carbon dioxide snow minus 79° C.

It is important that enough pressure be used and the liquid nitrogen held in place long enough to cause intense edema with formation of a small vesicle under and around the verruca plantaris. This vesicle will often contain some bloody serum that the patient may speak of as a "blood blister." This usually develops between 12 and 30 hours after the treatment.

The subject is asked to return in 36 to 48 hours and the wart then usually can be scooped out with a pair of iris scissors or a scalpel blade. The area heals rapidly. In all cases observed by the author the scar was soft and pliable.

Some patients would not tolerate the application of the liquid nitrogen and preferred the pain of 1 per cent procaine injection. In addition, some patients who were treated first with procaine, later had liquid nitrogen therapy. Thus a combination of the procaine infiltration method and the liquid nitrogen method was used in these cases.

Theoretically, better results should be obtained by using a combination of both than with either alone. Such was not the case, however. The cure rate in cases in which both methods were used was higher than with the use of the 1 per cent procaine infiltration alone but was not higher than with liquid nitrogen alone.

Of the 62 patients, 48 were considered cured—a cure rate of 78.7 per cent. Twenty-seven patients responded to the first treatment and 20 required two treatments. One needed three treatments. In the remaining cases when the warts did not disappear after five treatments, the method was deemed to have failed.

Carbon Dioxide Snow Therapy[7]

Carbon dioxide snow therapy was used on 48 patients with one or more plantar warts of more than six weeks' duration. They were treated by paring the warts until bleeding points were reached and then applying the carbon dioxide snow in pencil form with pressure, for about 60 seconds. The only change in method from that used by the author in a previously reported series[7] was that adhesive was applied over the area and the patient told to keep it or a fresh piece of tape in place until the next visit. The patient was told to return in about a week, when an attempt was made to scoop out the wart with iris scissors or a blade. If it could not be scooped out, carbon dioxide snow was again applied and the patient was told to return in three days, since the reaction is more rapid after the second treatment. Often the patient would pull the wart out when changing the adhesive tape at home.

Thirty-one (64.4 per cent) of the 48 patients were cured—11 after one treatment, 16 after two and four after three treatments. In the remaining 17 cases the method was deemed a failure after five treatments without disappearance of the warts.

Euphorbium Resin[3]

Fifty-four patients were given euphorbium resin therapy.[3] (The results here reported were based upon observation for a period of six months.)

The warts were pared down and a 30 per cent solution of euphorbium resin in alcohol was applied directly to the area and covered with adhesive tape for 48 hours. Then the procedure was repeated, if necessary, until the verruca could be "shelled" out. This is the method described by Curtis and Goldblum.[3]

Of the 54 patients treated, 39 were regarded as cured. No patient responded to the first treatment; 16 were cured in two treatments and 23 in three treatments. In the remaining 15 cases the therapy was regarded as a failure after six treatments. Thus the cure rate was 72.2 per cent, with three recurrences in the same site in the six-month period. Curtis and Goldblum[3] reported a cure rate of 90 per cent.

To check the quality of the euphorbium resin being used, a supply was obtained from the University of Michigan pharmacy. This euphorbium was used in 31 patients. They were not included in this report, as the period of observation was too short, but the initial response was within 2 per cent of that in the original 54 patients.

The only other reference to therapy of this type is on page 77 of the 1953-54 Year Book of Dermatology and Syphilology,[6] in which the editors commented that they were not impressed with the results in the few cases in which they tried it.

The merits of this approach to the treatment of plantar verrucae are that it is relatively painless and one can usually determine the success or failure of the method in about 96 hours. Also the resin of euphorbium is inexpensive and stable.

X-ray Therapy

Roentgen therapy was not given to any of the patients in the present series at the first visit. The patients here reported upon were sent directly to the radiology department by referring medical officers specifically for x-ray therapy. Eighty-three such patients were observed for a period of nine months.

The dosage used varied with the size of the verruca; it was usually 1,200 r in one treatment or two treatments of 600 r. For smaller warts the dosage was increased. Of the 83 patients, 61 (73.4 per cent) were considered cured, and four had recurrences at the same site.

Thus x-ray therapy produced a slightly higher cure rate, with no more recurrences, than any of the other methods of therapy with the exception of liquid nitrogen. X-ray has three definite advantages: It is fairly effective, is easy to administer if equipment is available with trained operators, and is painless and clean. There are also some distinct disadvantages: It is dangerous if improperly used; it is possible for patients to deliberately or inadvertently forget they had x-ray and get repeat therapy (in event of a recurrence or failure) usually from another physician, with resulting radiation necrosis and all the problems that accompany it; and not many physicians have a machine available.

The possible serious complication of x-ray therapy may outweigh the advantages and therefore this method was used only as a last resort.

Excision of Plantar Condyles of the Metatarsal Heads[4]

The author has had no experience with the new approach to intractable verruca plantaris reported by DuVries.[4] Mention is made of it only for completeness. When the cases in the present series were reviewed, however, it was felt that there were no patients who would have required this surgical therapy. The biggest objection to this approach is the one that applies to any operation on the plantar aspect of the foot, including electrodesiccation: A painful scar may develop, which is usually a bigger problem than the original verruca.

CONTROLS

As paring down the wart is the first step in all types of therapy with the exception of procaine infiltration, it was decided to use this paring process on patients kept as controls.

Owing to the possibility of psychotherapy as a factor in dealing with warts, normal saline solution was applied and the area covered with adhesive tape after paring. The patients were not told what solution was being painted on the verruca. These patients were seen at two-week intervals as long as they would return for observation.

Sixty-three patients were seen every two weeks for a period of six months. Subjective symptoms were completely relieved in 29 patients (46 per cent) as long as the wart was kept trimmed, and were relieved to some extent in most cases. Only two patients said they had no relief at all. It is interesting to note that only three plantar warts spontaneously disappeared in the six-month observation period, even though symptoms were relieved. If one paring was skipped, the symptoms returned in direct ratio to the development of hyperkeratosis.

Controls were actively treated at the end of the six-month period, as a longer period of observation was not considered fair to the subject.

DISCUSSION

If one were to postulate the requirements of an ideal therapeutic agent for plantar warts, the following points should be included: It should be safe, effective, relatively painless, inexpensive, administrable by any physician without need of special equipment, and be such that the patient could remain ambulatory during therapy.

None of the eight different methods of therapy used in this study approached the standards of an ideal agent.

The highest percentage of "cures" was obtained with the use of liquid nitrogen. This slight advantage in effectiveness is somewhat offset by the lack of availability of the method. Only in the larger metropolitan centers is a ready supply of liquid nitrogen at hand. A special insulated container must be used because of the rapid evaporation and the low temperature. Liquid nitrogen costs more than other topical agents but it is still relatively inexpensive near a source of supply.

X-ray therapy gave the next highest "cure rate." The cleanliness, absence of pain and the fact that only one or two treatments are needed has made it the method of choice of many physicians even though it may mean referring the patient. Patients who have been treated by this means or who have heard about it from others, often ask specifically for x-ray therapy.

Impressive instruction of the patient about x-ray therapy is most important. Each patient who is given x-ray therapy of any kind should be given a diagram of the part treated with the site that received the ionization precisely outlined. All factors and the dosage should be included. Some physicians supply this to their patients; others feel it best to wait until the information is requested by another physician and then supply it to him.

The fact that some patients forget intentionally or unintentionally that they ever received roentgen therapy is well known. If the patient is given a card at the time of therapy and impressed that he should show it to any other physician who might treat him, the psychological impact may be enough to make him comply. It should be stressed that x-ray therapy given by a physician trained in its use is perfectly safe. However, it should be given only after other procedures fail—not as initial therapy.

Euphorbium resin most nearly fits the requirements of the "ideal agent." It is not as effective as an ideal agent should be, but it approaches or equals all other modes of therapy in effectiveness. The cost of the agent is almost nothing. Patients object very little to the slight irritation at the site of application. At the end of 96 hours, one can usually tell if the therapy is going to be successful. No special equipment is needed, and the patient remains ambulatory.

Carbon dioxide snow can be utilized by physicians who like cryotherapy and do not have a source of liquid nitrogen. If more pressure is used for a longer period of time—up to 120 seconds—the effectiveness of carbon dioxide snow should approach that of liquid nitrogen.

In the present series the location of the verrucae did not seem to influence the response. Many observers have expressed the opinion that a plantar wart at the base of the first metatarsal is more difficult to cure than one located elsewhere on the sole of the foot.

Although none of the agents used in therapy were highly effective, it is important to note that all gave results superior to those noted in the untreated controls.

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REFERENCES

1. Branson, E. C.: Treatment of plantar warts, Med. Bull., European Command, 8:354, 1952.

2. Branson, E. C., and Rhea, R. L.: Plantar warts, N.E.J.M., Vol. 248, 15:631-632, April 9, 1953.

3. Curtis, A. C., and Goldblum, R. W.: Effects of euphorbium resin on verrucae plantaris, J. Invest. Derm., 20:45-50, Jan. 1953.

4. DuVries, H. L.: New approach to the treatment of intractable verrucae plantaris, J.A.M.A., 152:1202-1203, July 25, 1953.

5. Karp, F. L., and Frank, S. B.: Electrosurgical removal of plantar warts, Arch. Derm. and Syph., 45:328-333, Feb. 1942.

6. Sulzberger, M. B., and Baer, R. L.: The Year Book of Dermatology and Syphilology, p. 77, 1953-54.

7. Wright, W.: Plantar wart therapy, U. S. Naval Med. Bull., 49:707-709, 1944.

Chronic Prostatitis: A Psychosexual Approach

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• "Chronic prostatitis" unaccompanied by signs of active inflammatory disease is a psychosexual disturbance, not a bacteriological disease. Prostate massage, local therapy, and antibiotic therapy are usually of no therapeutic value; a careful history and evalution of the background and good social and psychiatric counseling are the only effective and rational means by which this so called "prostatitis" is controllable.

CHRONIC PROSTATITIS is a common condition and patients who have it are likely to go from one physician to another and to have months or years of treatment without lasting improvement.

A clinical characteristic is daily discharge of thin mucoid material from the urethral meatus, worse upon arising but often persisting throughout the day. It often stains the underclothing, and it seems to come and go without a definite causal relationship to daily events of any kind. Often there is mild dysuria, terminal dysuria, a feeling of incomplete urinary emptying, perineal, low lumbar, sacral, suprapubic, testicular or urethral ache, and innumerable vague symptoms referable to the sexual function. Often the disease lasts a year or more. A history of gonorrhea is not often associated with it.

The symptoms are most frequent in young unmarried men, and also in married men when their wives are pregnant and again during the menopause. There are numerous spontaneous improvements and unexplained relapses, often during a course of treatment. Usually the patient has had unimpressive response to prostatic massage, passage of sounds, urethral instillations, bladder irrigations, diathermy and sitz baths, and to the use of vaccines, sulfonamides, penicillin, streptomycin and other antibiotic drugs. Most patients with chronic prostatitis are unmarried and often it is possible to elicit a history of irregular sex habits, surreptitious sexual practices as based upon social mores, sexual indulgence alternating with abstinence, and intermittent copious consumption of liquor.

A thin, watery mucoid discharge flows spontaneously or is stripped easily from the urethra. The urethral meatus seems excoriated. The discharge contains leukocytes and all the various organisms usually to be found on the inner surface of the thigh, such as colon bacilli, staphylococci, streptococci, micrococci, pleomorphic organisms and yeasts. Cultured specimens of these organisms show inconclusive sensitivity reactions to antibiotic drugs. The prostate gland often is swollen, tense and tender, but not nodular. Light prostatic massage causes a copious amount of blue-white mucoid watery substance to flow from the meatus. This substance contains many leukocytes lying singly and in clumps, and it does not contain the normal prostatic fluid "lecithin bodies." Prostatic massage often brings about a temporary but noticeable remission of symptoms.

To be kept in mind, of course, in making a diagnosis are other prostatic conditions such as true venereal disease as well as the mild persistent temporary urethral discharge that may be present after adequate antibiotic therapy of gonorrhea. Also to be considered are urethritis caused by chemicals used in some prophylatic preparations, urethral allergic reaction (the author once observed such a reaction in a person sensitive to chocolate), the aftermath of wassail, and the elusive but much mentioned male trichomoniasis. Remote possibilities are urinary tract tuberculosis and other specific infections.

SEXUAL SYMPTOMS

In articles in the recent literature, nonspecific urethritis is persistently considered a local genital illness, although many of the investigators stress that sexual symptoms and aberrations are associated with the condition. McCrea[5] stressed focal infection, but noted that the patient has "marked mental depression and lack of interest and ambition; there is prostatorrhea plus weakness and exhaustion." Colby[3] said that "chronic prostatitis is frequently overlooked, there are sexual symptoms due to chronic prostatitis which are diminished sexual desire, poor erections, and premature ejaculation; the condition is incurable." Henline[2] observed that "failure to establish normal sexual hygiene may interfere with the improvement in chronic prostatitis infection; chronic prostatitis frequently is present in the patient presenting symptoms of sexual dysfunction; treatment should include all urologic study and necessary correction of abnormalities as well as the avoidance of irregular sexual habits and overindulgence." Ockerblad and Carlson[6] stated: "Lack of regular sexual activity in one accustomed to it

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Submitted October 18, 1954.

may induce prostatitis. It is seen in husbands of pregnant women, and married Army and Navy inductees. The secretion in little lobules of the prostate act as a culture medium for the invading bacteria which usually arrive by way of the blood stream." However, they expressed belief that dealing with focal infection elsewhere was not often of value, and they did not think highly of the use of vaccines, intraprostatic injections and the like. They advise prostatic massage as the treatment. Herbut[4] said that the "predisposing causes of chronic prostatitis are sexual aberrations such as masturbation, overindulgence, withdrawal, sexual excitement, alcoholism, trauma, and constipation, while the precipitating causes are bacteria by direct extension or blood and lymph metastases."

Whereas the investigators cited above place the sexual dysfunction as an effect of prostatitis, the author interprets prostatitis as a result of the sexual problem. This question is of the utmost importance, for it determines the entire plan of treatment.

PSYCHIC ASPECTS

The conclusions in this presentation are based upon experience derived from a fairly active urologic practice, from 12 years of attendance in urology clinics, and from observation of patients as a urology consultant in the Los Angeles City Health Department venereal disease clinic for ten years. From reflection upon this experience, the following thesis was evolved.

"Chronic prostatitis" unaccompanied by signs of active inflammatory disease, characterized by mild prolonged discharge of thin watery material from the urethra, urinary frequency, mild dysuria, perineal, testicular, low lumbar and urethral ache and by inconclusive bacteriologic findings, and not responding to prolonged prostatic massage, intraurethral therapy, chemotherapy and antibiotic therapy, is not primarily an anatomical and not a bacteriological disease. It is a psychosexual disturbance. Only the correction of the fundamental underlying psychosexual disorder will cause prostatitis of this kind to subside.

The prostate gland is a conglomerate of 30 to 50 tubo-alveolar compound glands, spongelike in character, with about 16 to 32 ducts arising from within the depth of the gland and emptying into the urethra on each side. There is some periglandular smooth muscle, within the stroma, which may have a contractile emptying and expulsion role. The prostate capsule is a thick, dense nonexpansile envelope of tissue. Overstimulation, chronic edema and congestion of the prostate gland—with the swollen gland prevented from expanding by the unyielding capsule—give rise to dysuria, burning sensation upon urination, perineal and sacral backache, burning and discomfort radiating through the penile tip, the glans and the urethra and overflow discharge of prostatic and urethral fluid. The patient constantly "strips down" the urethra, especially in the morning and after each voiding, "to milk out the discharge." There is oversecretion, poor emptying of the prostate, congestion of the gland and mechanical trauma to the urethra. A constant feeling of guilt, feeling of insecurity, hurried ungratified sexual performance and incomplete emptying upon orgasm bring about a vicious cycle. The patient attempts to have several orgasms each time, is constantly in search of a perfect sexual partner, has furtive hurried intercourse, fear of being surprised, fear of an illicit pregnancy, fear of venereal disease, fear of inability to demonstrate virility and manhood. As a result, he makes minute and painstaking postcoital examination of the urethra, the meatus and the urethral discharge, carefully observes postdefecation urethral discharge, and pays exaggerated attention to normal urethral and genital sensations.

It is fascinating to see the change that occurs as the patient goes from the unmarried to the married state. He may have the same sexual partner as before, precisely the same anatomical conditions, the same sexual performance, the same frequency. In short, everything may be exactly as before—but the prostate symptoms disappear. Is it the social acceptance, the legality, the security, the lack or diminution of guilt feeling, that results from possession of a marriage license?

Clark and Treichler[1] showed experimentally that the prostate gland responds to emotional stimulation through the autonomic nervous system. Their studies showed that directly following a period of sexual excitement and emotional stress (produced by viewing pornographic movies) there was a sharp increase in acid phosphatase activity in the urine.

There is, of course, true infectious prostatitis, such as used to occur after gonorrheal urethritis in the days before antibiotics. Prostatitis of that type, however, has all the other abnormalities associated with inflammation, such as fever, leukocytosis and increased sedimentation rate, and complications such as epididymitis and metastatic infections. The organism must be, and usually is, quite virulent, in order to invade the prostate at all. Acute infective prostatitis, gonorrheal or nonspecific, usually responds fairly well to antibiotics. As the prostate gland is quite vascular, it is probable that when antibiotic agents are administered they infuse the prostate gland in adequate concentration. The stubborn resistance of so-called "chronic prostatitis" (and of the bacteria recoverable from secretions exuded in prostatitis of this kind) to all antibiotics, is sharp evidence that the disease is not one of bacterial or viral infection.

CASE REPORTS

Benign Papilloma of the Ureter and Malignant Papillary Tumor of the Bladder

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A PATIENT WITH primary papilloma of the ureter of five years' duration and malignant transitional papillary tumor of the bladder of five months' duration was observed by the authors. Urothelial tumors are not generally considered tumors of any one particular organ but must be regarded as tumors of the entire endothelium including kidney, ureter and bladder.

Approximately 1 per cent of the tumors observed in the upper urinary tract are primary tumors of the ureter. They are very malignant; only six of the patients in 183 cases reviewed by Scott were alive five years after diagnosis. Benign tumor of the ureter is rare. About 250 cases of primary ureteral tumor have been reported in the literature (Boyle and Brown).[1] Owing to greater awareness of the condition and better diagnostic methods, such tumors have been reported more frequently in the past ten years. The incidence is more frequent in the sixth and seventh decades of life (Scott).[3] Diagnosis of primary ureteral tumor taxes the ingenuity of the urologist. A filling defect in the ureter may be observed upon careful examination of intravenous and retrograde pyelograms, and usually it is accompanied by dilation of the ureter and pelvis above.

REPORT OF A CASE

A man 57 years of age entered the hospital on July 23, 1954, because of massive hematuria.

In 1949 the patient had had a similar episode of hematuria. Tumor of the right lower ureter (Figure 1) was diagnosed at that time but the patient refused to have operation. Hematuria recurred in December 1951 and in February 1952. In 1953, transurethral resection for prostatic hypertrophy was carried out in another city and no neoplasm was observed in the bladder at that time. After the operation the patient had moderate incontinence, dysuria, frequency, nocturia and burning sensation at the end of the penis. He noted terminal hematuria at frequent intervals.

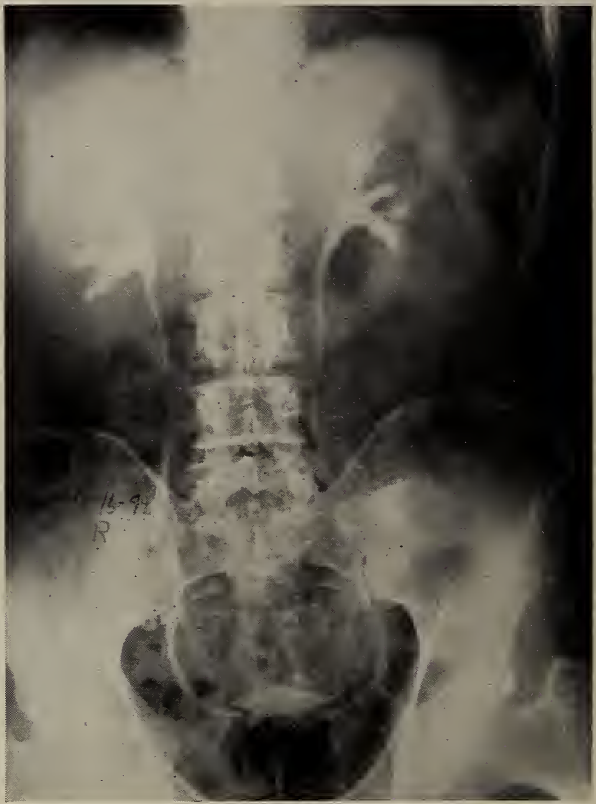

Figure 1.—Retrograde ureteropyelogram taken in 1949. Note ovoid filling defect in right lower ureter.

Laboratory data. The specific gravity of the urine was 1.017, reaction acid, albumin 3 plus. There were 10 to 15 leukocytes per high dry field and many erythrocytes. Fifty per cent of phenolsulfonephthalein injected intravenously was recovered. The nonprotein nitrogen content of the blood was 36 mg. per 100 cc., urea nitrogen 19 mg. and creatinine 2 mg. per 100 cc. Erythrocytes numbered 4,390,000 per cu. mm. and hemoglobin content was 12 gm. per 100 cc. Leukocytes numbered 11,400 per cu. mm.—71 per cent polymorphonuclear cells, 22 per cent lymphocytes, 7 per cent monocytes.

Upon cystoscopic examination, residual prostatic tissue was noted. There were a number of nodular, bleeding sloughing tumor masses, varying from 3 mm. to 2 cm. in diameter, on the base, on the right lateral wall and on the dome of the bladder. Papillary transitional cell cancer was diagnosed by biopsy. The right ureteral orifice was stenosed and

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Submitted December 15, 1954.

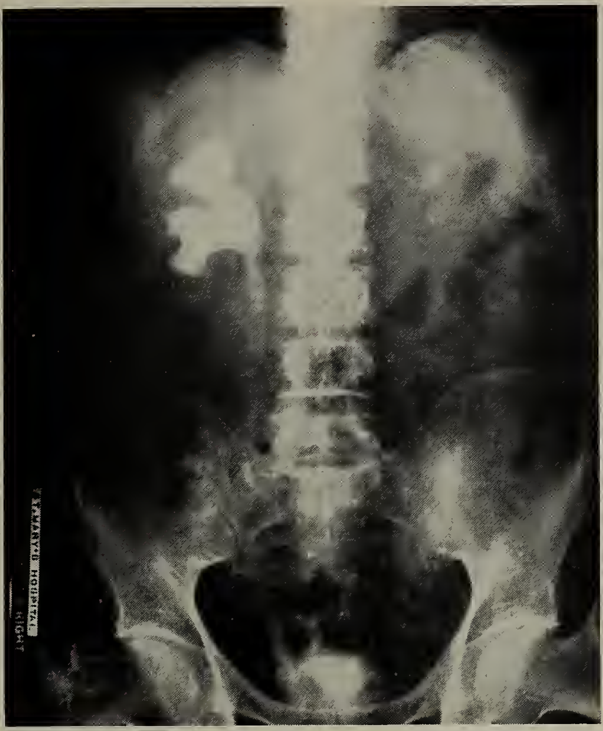

Figure 2.—Retrograde ureteropyelogram taken in 1954. The pyelographic media is arrested at the site of tumor in lower ureter, resulting in hydroureter and hydronephrosis.

buried in dense scar tissue. Indigo carmine, injected intravenously, appeared in 6 minutes in good concentration from the left orifice, and at 16 minutes in very poor concentration from the right orifice. Ureteropyelographic examination showed right hydroureter and hydronephrosis and an ovoid filling defect, 3 cm. x 2 cm., in the upper portion of the lower third of the ureter (Figure 2). The diagnosis was primary ureteral tumor, right hydronephrosis and hydroureter secondary to stricture of the lower ureter and cancer of the bladder.

On August 3, 1954, nephroureterectomy was done. Convalescence was uneventful. Upon pathologic examination of the specimen, pronounced dilation of the ureter and renal pelvis was observed. The parenchyma was thinned, varying in thickness from 1 to 2 cm. There was a polypoid tumor, attached to the ureteral wall by a small pedicle 3 cm. in diameter, 7 cm. proximal to the distal end of the ureter. Two satellite tumors, 0.5 and 0.7 cm. in diameter, were located near the pedicle (Figure 3). The pathologic diagnosis was papillary transitional papilloma with no evidence of malignant change.

On August 25, 1954, the tumors in the bladder were removed by transurethral resection. The pathologic diagnosis was papillary transitional cell cancer of the bladder (Figures 4 and 5). The intramural portion of the stump of the ureter was resected and no evidence of papilloma, benign or malignant, was observed. The patient received 2,000 r of roentgen therapy in divided doses, applied to anterior and posterior portions of the bladder. At the time of this report the patient was being given 25 mg. of diethylstilbestrol per day. The patient regained strength and had no further attacks of hematuria, but still had slight dysuria and frequency. Periodic examinations of the urine for blood and cystoscopic examination every three months were being carried out.

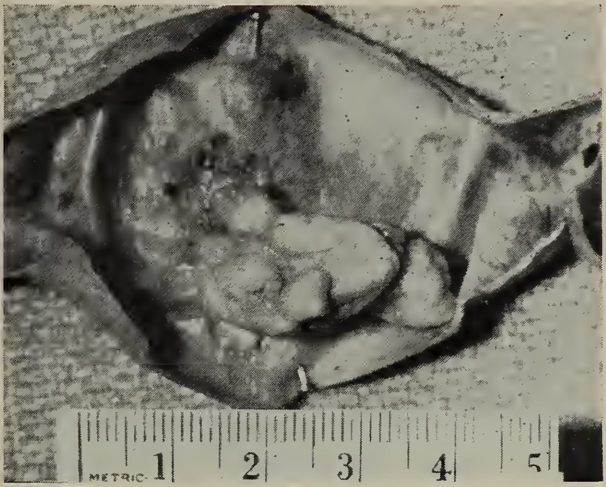

Figure 3.—Photograph of primary ureteral papilloma, two satellite tumors and hydroureter.

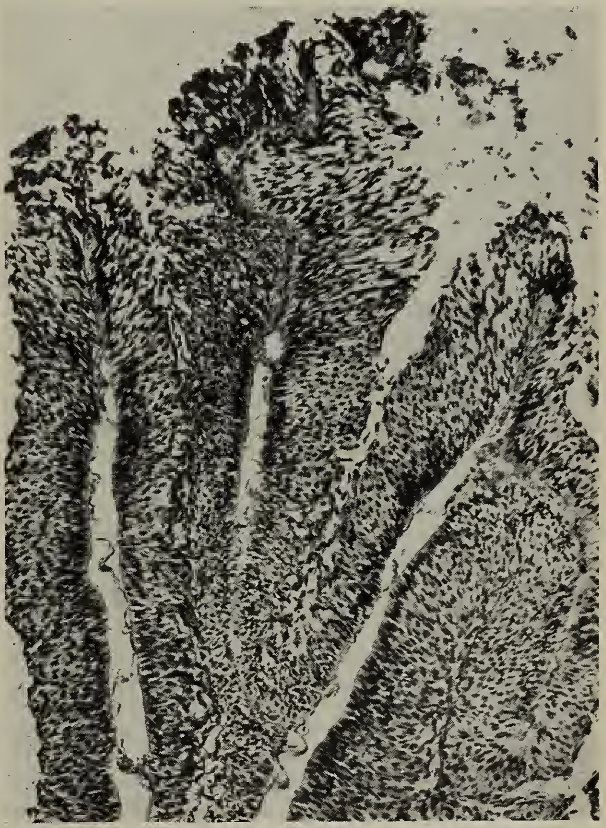

Figure 4.—Photomicrograph (×100) of papillary ureteral tumor. The papillae are composed of a relatively thick layer of transitional type epithelial cells supported by a slender stalk with a central capillary. An occasional cell is in mitosis.

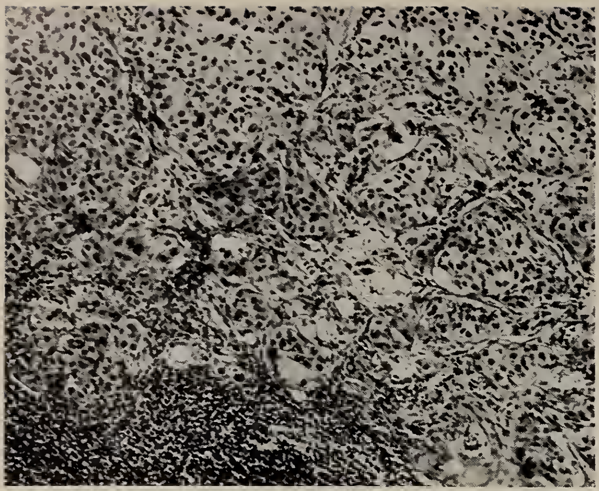

Figure 5.—Photomicrograph (×100) of transitional papillary carcinoma of bladder, showing small nests of transitional type epithelial cells with some parts having a pseudoadenomatous appearance. The cells vary in size and staining reaction and there are scattered mitoses.

COMMENT

The present case is the fourth case of primary ureteral tumor observed by the authors.[2] In the other three the tumors were malignant and the patients died within five years despite complete ureteronephrectomy.

It was noteworthy in the present case that the papillomata existing in the lower right ureter did not undergo cancerous degeneration over a period of five years. Yet, when implants appeared in the bladder they rapidly became malignant (within five months). Apparently the activating carcinogenic agent had not affected the ureteral tumor but rapidly affected the papilloma in the bladder. It is also possible that the bladder lesions were independent tumors and not related to the benign papilloma in the ureter. The fact that the majority of the lesions were in the vicinity of the right ureteral orifice would favor the theory that the papillary carcinoma of the bladder resulted from implants which rapidly underwent cancerous degeneration.

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REFERENCES

1. Boyle, J., and Brown, I. S.: Tumors of the ureter, Trans. So. Central Section, Amer. Urol. Assn., 1952.

2. Mathé, C. P., and de la Pena, E.: Primary carcinoma of the ureter, Cal. and West. Med., 42:357, May 1935.

3. Scott, W. W.: A review of primary carcinoma of the ureter, J. Urol., 50:1, 45, 1943.

Duodenal Stenosis in a Newborn Child; Observation of a New Physical Sign

C. SEYBERT KINSELL, M.D., *Santa Barbara*

Recent surgical and pediatric literature has emphasized the importance of early diagnosis and prompt surgical treatment of intrinsic intestinal obstruction of the newborn. The prognosis depends on appreciation of the occurrence of this condition and early surgical correction.

Like esophageal obstruction, congenital intrinsic small bowel obstructions may be classified into different groups:[2]

1. Complete discontinuity.
2. A type in which the proximal dilated bowel is joined by a fibrous cord to the distal collapsed bowel.
3. Narrowing for a variable length.
4. Diaphragmatic occlusion, either partial or complete.

The first two types are commonly called atresia and the other two are classified as stenosis. It is not thoroughly appreciated that stenosis of the intestinal tract, although less common than atresia, is associated with serious consequences and often causes death unless diagnosis is made early and surgical treatment is carried out. As to the relative incidence, in a recently reported series[3] there were 71 cases of intestinal stenosis and 140 cases of atresia.

In cases of infants with intrinsic obstruction of the small bowel the history is that of increasing vomiting. The vomitus may be clear or bile-stained, and is often projectile if the obstruction is high. Abdominal distention and visible peristaltic waves may be noted. In some cases a tumor—distended proximal bowel—may be felt. All these signs may be common to the entire group of cases of intrinsic intestinal obstruction, being modified from case to case by the site of the obstruction, whether it is above or below the ampulla of Vater.

Stenosis might be differentiated from atresia by the presence of stool and tiny curds after milk feedings, but in many cases of atresia there is anal discharge of a little putty-like meconium or a slight amount of mucus after birth. Confusion may result from interpretation of Farber's test[1] if care is not taken in obtaining a specimen for examination from the central portion of the stool, as some cornified cells may be picked up on the external surface of the stool from its passage through the rectum. The only sure differential point is in the x-ray interpretation: a small amount of air may usually be observed in the lower bowel and large intestine if even a pin-point opening is present.

In the following case a new physical sign which has not, to the author's knowledge, been reported

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Submitted November 3, 1954.

previously was observed. This sign permits clinical differentiation of stenosis from atresia, and may help in making an earlier diagnosis.

REPORT OF A CASE

The patient, a four-day-old Japanese girl born at term, was examined January 27, 1954 because of persistent vomiting of yellow and green liquid since 12 hours after birth when the first feedings were started.

The pregnancy had been uneventful and the baby was delivered with low forceps after 18 hours of labor. At birth the child appeared vigorous, cried spontaneously, and weighed seven pounds two ounces. The first hours in the nursery were uneventful. Urination and meconium stool were noted in the first 24 hours.

The initial feeding of water was given at 12 hours after birth. Following this feeding, vomiting began and continued. A few small milk curds were seen in the stool at 48 hours, and small green curdy mucoid stools were noted daily thereafter. By the fourth day the body weight had decreased to six pounds five ounces. No abdominal distention was noted.

Upon physical examination it was noted that the baby was afebrile and vigorous with a good color and cry, was active and appeared hungry. The fontanelle was soft and measured 3x2 cm. The eyegrounds were normal. A normal Moro reflex was elicited. The heart and lungs were clinically normal. The abdomen was not distended. On feeding, the stomach filled and definite good quality gastric peristaltic waves were seen moving from left to right. The edge of the liver was palpable 3 cm. below the right costal margin. On palpation, gas could be pushed from the stomach to the small bowel with a squishy sound and a palpable vibratory sensation. A fullness in the region of the pylorus was noted. Upon rectal examination a thin mucilaginous stool which contained a few small curds of milk was observed.

Erythrocytes numbered 5,100,000 per cu. mm. and the hemoglobin content was 16.9 gm. per 100 cc. Leukocytes numbered 15,150 per cu. mm.—55 per cent polymorphonuclear cells, 44 per cent lymphocytes and 1 per cent eosinophils. Bleeding time was two and one-half minutes and clotting time five minutes.

X-ray films of the abdomen with the patient upright and supine showed a large amount of air in the stomach and first portion of the duodenum. A very small amount of air was noted in the rest of the small bowel and large bowel. No free air was noted below the diaphragm. The clinical diagnosis was congenital duodenal diaphragm causing intestinal obstruction.

At 96 hours of age the baby was operated on, the duodenum opened, and an obstructing diaphragm between the second and third portion of the duodenum was excised. A Levine tube was passed from the stomach into the jejunum and the duodenum was closed. Recovery was normal and the baby was discharged on the 14th day of life weighing six pounds, 11 and one-half ounces. After discharge the child continued to gain weight and take a normal amount of feeding. At seven months of age she weighed fourteen pounds and physical and developmental examination was normal.

DISCUSSION

The classical signs of early vomiting of bile-colored fluid, upper abdominal distention, scaphoid lower abdomen, gastric peristaltic waves and the presence of a "pyloric tumor" in the right upper quadrant (distended duodenum) were noted. In addition to these physical signs, it was noted that it was possible to press gas from the stomach through the duodenum to the jejunum with a peculiar feeling as if there were a resistance to the passage of the gas. This was associated with a palpable gaseous "vibration" as if one were feeling borborygmus. This sign, which the author calls the squishing or decompression sign, is due to the gas being passed from the stomach to the lower bowel through a small opening in the membranous obstruction observed in the duodenum. The effect is that of the reed in a wind instrument, and the resultant vibration is distinctly palpable to the examiner. This sign is pathognomonic of gas being passed through an obstructed opening, and elicitation of it should confirm the diagnosis of a stenotic obstruction with a pinpoint opening. In the present case this effect could be reproduced repeatedly and demonstrated to other examiners. It was entirely different from the occasional peristaltic borborygmus noted in the normal infant and could not be elicited on examination of any normal newborn child. Theoretically, it might be elicited if there were a perforation of the intestinal tract. It is suggested that observation of this sign on examination of an infant suspected of having a gastrointestinal tract anomaly should permit a clinical diagnosis of membranous obstruction with pinpoint opening.

15 East Arrellaga Street, Santa Barbara.

REFERENCES

1. Farber, S.: Congenital atresia of the alimentary tract, diagnosis by microscopic examination of meconium, J.A.M.A., 100:1753-1754, 1933.

2. Forshall, I.: Duodenal obstruction in the newborn, Brit. J. Surg., 35:58-69, 1947.

3. Gross, R. E.: The Surgery of Infancy and Childhood, W. B. Saunders Co., Philadelphia, 1953.

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EDITORIAL

Annual Session Highlights

Another annual session of the California Medical Association has been concluded. The four-day gathering in San Francisco moved at a fast pace through a large number of scientific papers and a record number of technical and scientific exhibits. An unexpected development was the attendance. Excluding exhibitors, the registration totaled 3,843, a new record for a meeting of the California Medical Association. Perhaps the fact that this was the first meeting that had been held in San Francisco in six years was a factor. On the business side, the House of Delegates considered two dozen resolutions and several amendments to the Constitution and By-Laws.

When the last gavel had banged, members and Delegates returned to their homes secure in the knowledge that a good job, scientifically and business-wise, had been accomplished. Many of the scientific papers will be printed in California Medicine in the coming year and the resolutions adopted by the House of Delegates will furnish grist for the Council and various committees.

In the annual elections, two new officers of the House of Delegates and three new Councilors were elected. Dr. James C. Doyle of Beverly Hills was chosen Speaker of the House of Delegates, succeeding Dr. Donald A. Charnock, who was honored with election as President-Elect. Dr. Paul D. Foster of Los Angeles was chosen as Vice-Speaker.

Among the Councilors, Dr. Edward C. Rosenow, Jr., was elected Councilor-at-Large to succeed Dr. Ben Frees. Dr. Elmer E. Wadsworth, Jr., was picked to represent the Fourth District as the successor to Dr. J. Philip Sampson, and Dr. James H. McPharlin of Salinas was elected Councilor of the Seventh District to succeed Dr. Hartzell Ray of San Mateo. These new Councilors, together with the new presiding officers of the House of Delegates, bring five new names onto the official Council roster.

In addition to electing new officers and passing a number of resolutions, the House of Delegates approved the formation of a new corporation to administer the Benevolence Fund. By handling this fund through a nonprofit corporation, the Association will secure federal tax benefits not available through the former arrangement.

The House also approved a set of By-Law amendments which create a new set-up of committees and commissions in the Association. As now arranged, six major commissions will be appointed, answerable directly to the House of Delegates or, between meetings of the House, to the Council. The commissions are the Cancer Commission and the Commissions on Medical Service, on Public Health and Public Agencies, on Public Policy, on Medical Education and on Professional Welfare. These commissions will, in turn, have subcommittees for the consideration of specific fields of activity. The new arrangement is considered superior to the earlier method of having a number of standing committees with few, if any, duties, and special committees created for special purposes by Council appointment that live on long after the need for them has passed.

Following the close of the House of Delegates, the Council held its organizational meeting and renamed Dr. Donald D. Lum of Alameda as chairman. Dr. Ivan C. Heron of San Francisco was picked as vice-chairman of the Council and chairman of the Executive Committee.

The Council also adopted a statement on the methods used in introducing the Salk antipoliomyelitis vaccine into the field of therapeutic and prophylactic agents. The statement hit at the nonscientific methods employed in a much-publicized program of introduction and pointed out the usual scientific procedures attending the introduction of other agents, procedures lacking in this instance. This statement also asked that the National Research Council, which has been called the "supreme court of medical research," be called upon to investigate all phases of production and distribution of the vaccine. (page465)

This statement, coming at a time when chaos marked the national poliomyelitis vaccine picture, was widely quoted in the press. Within a matter of hours the Association received requests for copies of the statement from a number of eastern areas. The tone of the requests indicated approval of the courage shown in bringing back into the field of science a prophylactic material of such vital importance to the public, rather than permitting further nonprofessional promotion.

It is likely that further statements along the same line will be forthcoming from other areas in the near future.

What Was *Your* Diagnosis?

FOLLOWING are the pathologists' reports of the diagnoses in the cases that were presented at the Clinical-Pathological Conferences held May 2, 1955, at the Annual Session of the California Medical Association in San Francisco. The protocols were printed on pages 335 to 337 of the April issue of CALIFORNIA MEDICINE.

CASE 1:

I. Tuberculous epididymitis, with
  A. Miliary tuberculosis, involving
    1. Lungs
    2. Liver, with
      a. Icterus
      b. Multiple body hemorrhages
    3. Spleen
    4. Bone marrow
  B. Miliary pulmonary congestion and edema, with
    1. Bilateral pleural effusion
    2. Abdominal ascites

CASE 2:

Carcinoma of stomach, superficially spreading, with multiple carcinomatous ulcers.

Metastatic carcinoma in regional lymph nodes, bone marrow, heart, and lungs (microscopic).

Anemia, secondary, severe.

Extramedullary myelopoiesis, liver, spleen, bone marrow.

Subcutaneous hemorrhages and large hematoma, right cerebral hemisphere.

(Miscellaneous minor pathologic changes.)

California MEDICAL ASSOCIATION

NOTICES & REPORTS

The New President-Elect

DONALD A. CHARNOCK, M.D.

Doctor Donald A. Charnock of Los Angeles, elected by the House of Delegates without opposition at the annual session to fill the highest position within the power of the Association to give, assumes his new and expanded responsibilities with a background of talent and organizational experience unexcelled and peculiarly fitting him for the strong and intelligent leadership which medicine so urgently requires in this time of peril to our free institutions.

Almost a native Californian, Dr. Charnock has been a resident of the state since 1902. His early education obtained through the public schools, he received his A.B. degree from the University of California in 1921. His medical training and the degree of Doctor of Medicine were achieved at Harvard University, where he was graduated in 1925. Internship and specialty training in urology were accomplished during a four-year period at the University of California Hospital, San Francisco. He has been engaged in the practice of urology in Los Angeles since 1929.

Early evidencing an interest in medical organizations, Dr. Charnock has served on the Council of the Los Angeles County Medical Association for six years; as vice-speaker of the House of Delegates of the California Medical Association 1947-50; and as speaker 1951-55.

In addition, he is a past president of the Los Angeles Urological Society, of the Hollywood Academy of Medicine, of the Barlow Society for Medical History, and of the Symposium Society.

At present he is Associate Clinical Professor of Surgery (Urology) at the University of Southern California; a member of the American Board of Urology; chairman of the Legislative Committee of

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the American Urological Association; an alternate delegate to the American Medical Association, and a member of the Board of Governors of the Los Angeles Academy of Medicine.

Particularly attracted by early California history, Dr. Charnock is a past president of the Zamorano Club, an organization named for the first printer in California. Pursuing this penchant for printing and books, he has become a critic and bibliophile of note, and has contributed much valuable counsel in the selection of books and periodicals for the Barlow Medical Library, now the Library of the Los Angeles County Medical Association.

Well grounded in the humanities, and with a classical premedical education all too rare in these days of push-button medicine, the new President-Elect brings to his high office a breadth of perspective and a catholicity of interest which will prove invaluable in the difficult task ahead.

LEWIS A. ALESEN, M.D.

Statement on Method of Introduction Of Salk Vaccine

Following is a statement adopted by the Council of the California Medical Association, May 4, 1955.

THE COUNCIL of the California Medical Association has been deeply disturbed by circumstances and events surrounding and following widespread introduction of antipoliomyelitis vaccine (Salk vaccine) in April, 1955. The tragic occurrence of poliomyelitis even in a relatively small proportion of the children injected with the vaccine indicates that the time has arrived to stop, to think, to analyze and to carefully consider how the present situation developed.

As a result of past experience, some of it bitter, with new prophylactic and therapeutic measures, a tacit or explicit policy has long been in force among medical men with regard to general acceptance of a new product or method: The policy entails a sequence of cautious and preliminary exploration, then publication of results in medical journals and gradual accumulation of data bearing equally on efficiency and safety. It was for this purpose that the Council on Pharmacy and Chemistry of the American Medical Association was formed.

Certain examples of the wisdom of this approach and of danger in its neglect can be cited. The development of diphtheria toxoid in its present satisfactory form followed several years of trial and error. On the other hand, the use of yellow fever vaccine, hastened by the exigencies of World War II, was followed by totally unexpected complications of homologous serum hepatitis, affecting more than 20,000 persons, many of whom died. This led to revision of the method of preparing the vaccine and to its present safety. In the case of poliomyelitis, two supposedly safe vaccines (Kolmer and Brodie) were put to human use in the 1930's. With both of these vaccines paralytic poliomyelitis occurred in the ratio of approximately one to 1,000 of the persons vaccinated, and usually the disease involved first the inoculated extremity or extremities.

In the present instance the National Foundation for Infantile Paralysis and advisory groups decided to by-pass a long period of trial and error by making a single, very large-scale field trial in 1954 and having results studied by the best known methods of collection of data and statistically appraised by experts using fully objective techniques. This study was culminated in the Francis report announced April 12, 1955, at Ann Arbor, Michigan. The field trial of poliomyelitis vaccine was conducted with great thoroughness and care and the results appear to demonstrate that vaccination with killed poliomyelitis virus produces a considerably increased degree of protection against the disease. The study indicated that this protection, while not complete, is sufficient to give promise that the use of the vaccine should reduce the incidence of poliomyelitis. The magnitude and accuracy of the collected data and scrupulous performance of analysis leave little room, if any at all, for criticism; and for this Dr. Francis and his colleagues deserve the highest credit. The same may be said of the preliminary work of Dr. Salk and his colleagues.

Certain features of the program, however, are open to serious criticism. They have already led to serious and unforeseen difficulties and have already interfered to a considerable degree with continuance of the program. The results of the vaccine trials were announced under the aegis of a lay organization to a relatively small number of interested professional and lay persons at the University of Michigan. Simultaneously the results were announced to the general public by radio and television and by the press. Since the basic charts used in the report were illegible on television in some areas and on some television receivers, many persons in the medical profession had only the condensations of press, radio and television commentators available to them. They did not soon enough or long enough have access to the exact and fundamental data of the full report. Copies of the original report were available for only a few of the many public health officers throughout the country who were responsible for conducting the free vaccination of school children, although the program, as prescribed by the Foundation, was to start at once. This objection also applied with even more force to practicing physicians, who were immediately placed under urgent demands for vaccine by parents of their patients. They were wholly dependent on public media of communication for appraisal of their medicolegal responsibilities.

Nationwide planning was immediately developed to administer the vaccine to first and second grade children in school, and these plans were virtually completed before there was any opportunity for many of those responsible for regional, state and local planning to have any personal knowledge of the exact content of the report of the field trials. This was particularly unfortunate, since it was revealed at the meeting in Ann Arbor that the composition of the vaccine and also the additive used for antiseptic, preservative and enhancing purposes, as well as the time schedule for its administration, had not been fully standardized. Even at the time of the public announcement, some of these factors were still undergoing changes.

Furthermore, there was not available to physicians and public health officials scientific evidence concerning the composition and safety of the vaccine. The decisions concerning the number of safety tests of individual lots and pools were made on advice and counsel of a group of outstanding experts. Tests that must be carried out to establish the absolute harmlessness of any method of immunization before it is put into use are time-consuming and the results must be carefully considered. Hence it is not feasible for the individual physicians or the health officers who are trusted with the health of the people to make such tests and studies as individuals. Responsibility of this magnitude requires profound searching appraisal by national groups of scientists and physicians.

In the present case, it would appear that a desire to bring the vaccine onto the market and to use it before the closing of schools may have created conditions that led to by-passing some of the time-honored scientific steps in professional education and evaluation and to alteration of some of the safety precautions required in the preparation of the vaccine. With a product of a single manufacturer there have been a number of paralytic sequelae to the vaccinations. Present evidence suggests these were, in effect, "inoculation poliomyelitis" rather than spontaneously occurring disease, although full investigation of this question is still to be carried out.

While a committee of virologists and epidemiologists of unquestionable authority has unanimously declared its belief that the vaccine now available for use is entirely safe and satisfactory, it remains to be determined whether the present difficulties with the vaccine are due to a defect in laboratory precautions or to a fundamental defect in the method itself.

In summary, physicians of California are cooperating and will continue to cooperate to the fullest extent with local, state and federal health agencies to safeguard the health of our people and the ultimate control of poliomyelitis.

The Council of the California Medical Association disapproves and condemns the methods of announcing the Salk antipoliomyelitis vaccine. It disapproves the contrived publicity with which the announcement was made and the fact that there has not to date been an opportunity for general scientific discussion of the value of the method. It further disapproves nonprofessional agencies' deciding the time and the means of reporting matters of a scientific nature and it disapproves such agencies' deciding the measures which should be employed in the further use of medical materials or methods.

It is urged that the National Research Council immediately undertake an extensive study of every phase of the manufacture and testing of the vaccine.

The C.M.A. Council believes that, in accordance with traditional scientific standards and practices, the use of this vaccine, as well as all other therapeutic and prophylactic agents, must be left to the judgment of the individual physician.

Council Meeting Minutes

Tentative Draft: Minutes of the 411th Meeting of the Council, Los Angeles, April 2, 1955.

The meeting was called to order by Chairman Lum in Conference Room No. 8 of the Biltmore Hotel, Los Angeles, at 9:30 a.m., Saturday, April 2, 1955.

Roll Call:

Present were President Morrison, President-elect Shipman, Speaker Charnock, Vice-Speaker Bailey, Secretary Daniels and Councilors West, Loos, Sampson, Pearman, Randel, Sherman, Lum, `Bostick, Teall, Frees, Carey, Kirchner, Reynolds, Varden and Heron.

Absent for cause, Editor Wilbur, Councilors Wheeler and Ray.

Present by invitation during all or a part of the meeting were Messrs. Hunton, Thomas, Gillette and Clancy of CMA staff; legal counsel Hassard; Mr. Rollen Waterson; Mr. Ben H. Read of the Public Health League of California; Doctors Dwight H. Murray, James C. Doyle and Dan O. Kilroy of the Committee on Public Policy and Legislation; Doctor Malcolm H. Merrill, State Director of Public Health; county society executive secretaries Scheuber of Alameda, Jensen of Fresno, Geisert of Kern, Marvin of Riverside, Foster of Sacramento, Nute of San Diego, Neick of San Francisco, Thompson of San Joaquin, Wood of San Mateo and DeVere of Stanislaus; Mr. K. L. Hamman of California Physicians' Service; and Doctors H. L. Gartshore, Joseph F. Sadusk, Jr., Packard Thurber, Sr., William Gardenier, Albert E. Larsen, Eugene F. Hoffman, George Maner and several others.

1. *Minutes for Approval:*

(a) On motion duly made and seconded, it was voted to approve the minutes of the 410th Council Meeting, held February 5, 1955.

(b) On motion duly made and seconded, it was voted to approve the minutes of the 248th Meeting of the Executive Committee, held March 9, 1955.

2. *Membership:*

(a) A report of membership as of March 29, 1955, was received and ordered filed.

(b) On motion duly made and seconded in each instance, eight applicants were voted Retired Membership. These were: Harry G. Ford, D. N. Richards, Alameda-Contra Costa County; Charles E. Plumb, Butte-Glenn County; Simon Jesberg, John R. Neal, Walter C. Zulauf, Los Angeles County; Arthur J. McDowell, San Francisco County; and C. B. Hollister, Santa Barbara County.

(c) On motion duly made and seconded in each instance, 24 applicants were voted Associate Membership. These were: James O. Culver, Marion G. Josephi, John W. Partridge, and J. G. Roney, Jr., Alameda-Contra Costa County; James L. Mertz and Leland B. Wilson, Humboldt County; G. Gordon Hadley, Louis J. Katz, and Frank W. McKee, Los Angeles County; Burwell Kennedy and Marian C. Kennedy, Madera County; Richard Argens and Kenneth W. Haworth, Napa County; LaVerne P. Glenn, Sacramento County; Mervyn G. Hardinge, San Bernardino County; Max E. Childress, Erwin P. Brauner, William Creger, Marie Lehner, Wm. W. Lindsay and Genevieve M. Stewart, San Francisco County; Emily H. Gates, San Joaquin County; and Mary C. Block and D. G. Macpherson, Ventura County.

(d) On motion duly made and seconded in each instance, reductions of dues were voted for 16 applicants who are undertaking postgraduate study or suffering from protracted illness.

(e) On motion duly made and seconded (in executive session) it was voted to authorize legal counsel to select a referee in a disciplinary case arising in Orange County.

(f) In executive session, following the reading of an opinion prepared by Councilor Bostick, it was regularly moved, seconded and voted to affirm the decision of the Judicial Council of the San Francisco Medical Society in a disciplinary case.

3. *Financial:*

A report of bank balances as of March 29, 1955, was received and ordered filed.

4. *State Department of Public Health:*

Dr. Malcolm H. Merrill, State Director of Public Health, reported on the pending report due April 12 on the safety and efficacy of poliomyelitis vaccine. He also reported on the evacuation of one wing of the Fresno County Hospital because of unsafe structural conditions and stated that the State Alcoholic Rehabilitation Commission had called upon the State Department of Public Health for assistance in some studies to be made.

Doctor Merrill also reported on some legislation now before the State Legislature (AB 146) which was approved by the Council earlier as an enabling act to permit the State of California to receive certain federal funds as an aid in the construction of out-patient and other hospital facilities but which has subsequently been amended to include an appropriation of state funds. In response to questions, Dr. Merrill stated that he would not oppose a further amendment which would permit voluntary nonprofit hospitals to have access to such funds equal with district, county or municipal hospitals.

On motion duly made and seconded, it was voted that the Council oppose the appropriation of state funds for this purpose as a matter of policy. It was further moved, seconded and voted that, should state funds be voted for this purpose, no discrimination be permitted as between the private and the public hospitals enumerated in the act.

5. *Committee on Malpractice Insurance:*

Dr. Joseph F. Sadusk, Jr., chairman of the Committee on Malpractice Insurance, gave a progress report and showed several slides to picture the incidence and cost of such insurance in California. He presented a written progress report, with recommendations, and asked that study be given this report so that its recommendations might be acted upon at a later meeting.

6. *Public Policy and Legislation:*

(a) Dr. Alfred A. De Lorimier of San Francisco discussed Assembly Bill 2489, which would affect the tax status of hospitals in which physicians occupied space for the practice of their specialties. He suggested amendments to this legislation.

(b) Discussion was held on Assembly Bill 1903 and Senate Bill 1814, the so-called "Fifth Amendment" bills which could construe use of the Fifth Amendment before an investigating committee as grounds for revocation of licensure.

(c) Dr. Harold C. Sox of Palo Alto expressed opposition to Senate Bill 1812, which would provide state supervision for prepayment medical care plans which now are not under state regulation.

(d) Dr. Dan O. Kilroy reported for the Committee on Public Policy and Legislation, reporting, among other things, that an Association-sponsored bill on the subject of adoptions had been defeated in committee.

(e) On motion regularly made and seconded, it was voted to approve the Committee's recommendations on bills relating to prepaid medical care and corporate practice of medicine.

7. *Rollen Waterson Associates:*

Mr. Waterson reported an increased interest in the usual fee indemnity plan, with inquiries originating from unions, insurance companies and newspapers. He stated that a more complete report would be made before the House of Delegates.

8. *Medical Services Commission:*

(a) Dr. Hollis L. Carey, chairman of the Medical Services Commission, reported that progress was being made in the development of a uniform claims form and that meetings had been scheduled with insurance representatives on this subject.

(b) Dr. Carey also reported that copies of the fee study form used in compiling the relative value fee study were available for county societies which wished to make their own studies. He also stated that a line of authority had been established in the compilation of fee schedules for California Physicians' Service, the line calling for initial action by a subcommittee of the Commission, thence to the Commission, thence to the Council, thence to the C.P.S. Board of Trustees.

(c) Other Commission activities were reported by Dr. Carey as including rechecking the relative value fee study, a pilot survey in Santa Clara and Riverside counties on the cost of producing a physician, a study of deductible types of health insurance, and responses to several counties which are inquiring about the underwriting of indigent care.

9. *Audio-Digest Foundation:*

Dr. Edward C. Rosenow, Jr., editor of Audio-Digest, reported on the activities of the organization and distributed and discussed a financial statement covering the past year of operations.

10. *Committee on Postgraduate Activities:*

Dr. Rosenow, as chairman of the Committee on Postgraduate Activities, reported that five two-day postgraduate institutes were planned for this year. Likewise, two circuit courses are under way and are being well attended. These courses, he said, are popular with the visiting professors as well as the local physicians. He recommended that the single-county meetings previously planned be discontinued. On motion duly made and seconded, it was voted to approve this recommendation.

Dr. Rosenow also suggested that the commercial exhibits at the two-day institutes be discontinued. On motion duly made and seconded, it was voted to approve this recommendation.

11. *California Physicians' Service:*

Mr. K. L. Hamman reported that C.P.S. now has a membership of more than 700,000 beneficiary and more than 13,000 physician members. Projected gross income for the next year is estimated at $30,000,000, including veterans' program revenues.

On motion duly made and seconded, it was voted to confirm the mail vote of the Council, under which Drs. Dave F. Dozier and Arlo A. Morrison, Mr. Thomas Hadfield and Rt. Rev. Msgr. Thomas J. O'Dwyer were approved as the Council's nominees for Trustees of C.P.S.

12. *Advisory Planning Committee:*

Mr. Hunton recommended for the committee that Mr. Thomas DeVere, newly appointed executive secretary of the Stanislaus County Medical Society, be appointed a member of the committee. On motion duly made and seconded, this appointment was approved.

13. *Blood Bank Commission:*

On motion duly made and seconded, it was voted to discontinue the membership on the Blood Bank Commission of Dr. Clarence D. Newel of Fresno, whose blood bank has been discontinued as a part of the statewide system.

14. *California Medicine:*

On motion duly made and seconded, it was voted to approve a request of the Advertising Committee of CALIFORNIA MEDICINE to request a change in the name of Poliomyelitis Immune Globulin (Human) which has been designated by the National Institutes of Health for a product which is useful in other fields of therapy but not in poliomyelitis.

15. *Hospital House Officers:*

Dr. Edwin L. Bruck requested the Council to enter into discussions with other groups of physicians in securing a restudy of the needs of hospitals for interns and residents, with a view toward a better setup for private hospitals in securing the house officers needed for good medical care. He agreed to place this proposal before the Council in writing for later consideration.

Adjournment:

There being no further business to come before it, the meeting adjourned at 5:30 p.m.

DONALD D. LUM, M.D., *Chairman*
ALBERT C. DANIELS, M.D., *Secretary*

In Memoriam

ALLEN, HERBERT W. Died in San Francisco, April 21, 1955, aged 80, of carcinoma. Graduate of Johns Hopkins University School of Medicine, Baltimore, Maryland, 1900. Licensed in California in 1901. Doctor Allen was a retired member of the San Francisco Medical Society, the California Medical Association, and an associate member of the American Medical Association.

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BEEDE, ARTHUR H. Died in Walnut Creek, April 14, 1955, aged 57, of asphyxia. Graduate of Stanford University School of Medicine, Stanford University-San Francisco, 1926. Licensed in California in 1926. Doctor Beede was a member of the Alameda-Contra Costa Medical Association.

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BOWEN, CARL B. Died in Angwin, April 16, 1955, aged 56, of myocardial infarction. Graduate of the University of Western Ontario Faculty of Medicine, London, 1922. Licensed in California in 1926. Doctor Bowen was a member of the Alameda-Contra Costa Medical Association.

✣

ELLIS, ROBLEY N. Died recently near Almaden, aged 46. Graduate of the University of California Medical School, Berkeley-San Francisco, 1938. Licensed in California in 1938. Doctor Ellis was a member of the Santa Clara County Medical Society.

✣

GRAY, JOHN E. Died in Sacramento, April 14, 1955, aged 43, of coronary artery disease. Graduate of the State University of Iowa College of Medicine, Iowa City, 1936. Licensed in California in 1941. Doctor Gray was a member of the Sacramento Society for Medical Improvement.

KILDUFF, RAYMOND. Died in Oroville, May 8, 1955, aged 55. Graduate of Washington University School of Medicine, St. Louis, Missouri, 1927. Licensed in California in 1928. Doctor Kilduff was a member of the Butte-Glenn Medical Society.

✣

LANPHERE, GRANT H. Died in Los Angeles, April 26, 1955, aged 68, of coronary artery disease. Graduate of Rush Medical College, Chicago, Illinois, 1920. Licensed in California in 1927. Doctor Lanphere was a member of the Los Angeles County Medical Association.

✣

RECKERS, WILLIAM A. Died in Placerville, April 10, 1955, aged 79. Graduate of the Cooper Medical College, San Francisco, 1901. Licensed in California in 1901. Doctor Reckers was a retired member of the Sacramento Society for Medical Improvement, the California Medical Association, and an associate member of the American Medical Association.

✣

SLOANE, LEONARD O. Died in Los Angeles, April 17, 1955, aged 79, of coronary artery disease. Graduate of the Wayne University College of Medicine, Detroit, Michigan, 1902. Licensed in California in 1922. Doctor Sloane was a member of the Los Angeles County Medical Association.

✣

WOODHULL, ROYDEN A. Died in National City, March 26, 1955, aged 67, of acute cardiac dilatation, glomerular nephritis. Graduate of the Wayne University College of Medicine, Detroit, Michigan, 1914. Licensed in California in 1921. Doctor Woodhull was a member of the San Diego County Medical Society.

WOMAN'S AUXILIARY
TO THE CALIFORNIA MEDICAL ASSOCIATION

WE TAKE INVENTORY

THE END OF THE YEAR is a time when it is traditional to take inventory of what we have accomplished and what still remains to be done. This is our twelfth monthly report to our doctors. A backward glance over the past year reveals that the most gratifying result of the year's work was the sustained enthusiasm and cooperation of all of our State Board members, our county presidents and the individual members. Each year we show a steady growth in numbers and in the scope of our influence; equally important is our growth in friendliness among ourselves, which is one of the big dividends we earn from working together in service to our communities and to our doctors. A few of the tangible evidences of our growth are these:

WE ARE GROWING IN SIZE

Our membership as of April 30 was 5,978 in the 31 organized counties; our 32nd Auxiliary, Merced, has been organized but dues have not yet been sent in so those 24 charter members will bring our total to just over 6,000.

With 40 Medical Societies and 32 Auxiliaries, that means that we have now reached exactly 80 per cent of our potential in organization, but we are still a long way from our goal in membership—the California Medical Association has more than twice as many members as the State Auxiliary. Until every eligible doctor's wife realizes that Auxiliary membership is a privilege, not a duty, and until every doctor realizes that a strong Auxiliary is the most powerful public relations ally the medical profession can have, we will continue to fall far short of our membership goal.

* * *

WE ARE GROWING IN COMMUNITY SERVICE

Every year our members give of their time, talents, energy and money to make their own communities happier, healthier places in which to live and work. As individuals and as an Auxiliary, we cooperate wholeheartedly with such agencies as Blood Banks, Cancer Society, Heart Association and the many other organizations dedicated to health services. More than $5,000 was given to community philanthropies; this does not include nurse recruitment, American Medical Education Foundation or Physicians' Benevolence. Even more important than the money were the thousands of hours given to volunteer work, including 700 hours by one member in teaching Braille.

OUR NURSE RECRUITMENT PROGRAM IS GROWING

Two factors have contributed greatly to our growth in nurse recruitment: a very capable and enthusiastic state chairman, and our cooperation with the Careers in Nursing Committee of the California League for Nursing. We work closely with this agency, and all of the films, brochures and educational materials we use in our counties are supplied from its San Francisco office. In return, C.M.A. contributes $3,000 a year toward the budget of the League, and our state Auxiliary has just voted to give a token gift of $50 toward the purchase of nursing films.

Incomplete figures to date reveal that our counties gave $13,940 in scholarships and $1,900 in loans this year. A few counties are having additional fund-raising events late in the spring, and the total will be somewhat higher when all the reports are in. Equally important are the Future Nurses' clubs and the assembly programs sponsored by our Auxiliaries, to create interest in nursing as a career for young women.

* * *

WE ARE GROWING IN SERVICE TO OUR DOCTORS

Each year we work together in our county Auxiliaries to raise funds for American Medical Education Foundation and for Physicians' Benevolence. Although there are still a few county Auxiliaries that have not sent their contributions, our checks as of April 30 were $5,217.99 for AMEF and $3,044.87 for Physicians' Benevolence.

In addition to our contribution in money, we also serve our doctors by acting as a liaison between the medical profession and the public; through study groups and open meetings, we inform ourselves and our friends about such important subjects as mental health, medical legislation, voluntary health insurance, civil defense and similar related topics.

A resolution passed by the California State Legislature commended the Woman's Auxiliary to the California Medical Association as "an organization which has rendered many valuable services throughout the State of California and is recognized as an outstanding and worthy association." This recognition is a fitting tribute to the thousands of our members who have worked so devotedly for the past 26 years to make our California Auxiliary an organization we can all be proud of.

MRS. FREDERICK J. MILLER,
Past President

NEWS & NOTES

NATIONAL • STATE • COUNTY

KERN

Dr. William H. Coe has been appointed assistant health officer of the Kern County Health Department. He succeeds Dr. Myrnie A. Gifford in that capacity.

LOS ANGELES

Dr. George C. Griffith, professor of medicine in the University of Southern California School of Medicine, was elected a governor for Southern California of the American College of Physicians at the annual meeting of the organization in Philadelphia.

* * *

The School of Medicine on the Los Angeles campus of the University of California has been **granted full approval** by the American Medical Association's Council on Medical Education and Hospitals, and has been admitted to membership in the Association of American Medical Colleges, according to announcements by the two organizations.

Following a survey by the A.M.A. Council in March, members of the two organizations were polled by mail and voted unanimous approval of the four-year program.

* * *

Dr. Alex A. Roger of Beverly Hills was elected president of the Los Angeles County Heart Association at a recent meeting of the organization. He succeeds Dr. Clifford B. Cherry. Elected with Dr. Roger were Dr. Edward Shapiro, vice-president, and Dr. Mitchell D. Covell, secretary.

* * *

Plans for the construction of a $1,500,000 **basic science building** were announced by the University of Southern California School of Medicine at a banquet held on April 28 in Los Angeles to launch a fund-raising campaign.

The building, which will be the first unit of an estimated $5,000,000 project, will consolidate the teaching and research activities on one medical campus. To be erected on a 10-acre site near Los Angeles County Hospital, where a medical research building has already been built, it will include laboratories and classrooms for bio-chemistry, physiology, pharmacology, pathology, microbiology and anatomy.

SAN DIEGO

Appointment of **Dr. Edmund L. Keeney** as director of Scripps Metabolic Clinic to succeed the late Dr. James W. Sherrill, was announced recently by the board of trustees of the clinic. Dr. Keeney, who has been a consultant of the clinic for several years, will assume active charge July 1.

SAN FRANCISCO

Dr. Albert Davis, clinical professor of surgery at Stanford University School of Medicine and chief of the division of plastic surgery at Stanford University Hospital, was elected vice-president of the American Association of Plastic Surgeons at the annual meeting of the organization last month.

SANTA BARBARA

The Gold Medal Award of the American College of Radiology, symbolic of outstanding contribution in the field of radiology, was presented to **Dr. James T. Case,** director of Santa Barbara Memorial Research Foundation, at the fifth Inter-American Congress of Radiology which was held recently in Washington, D. C.

SOLANO

The newly organized Solano County chapter of the **California Academy of General Practice,** which has 23 active members, recently received its charter and elected officers for the coming year. Dr. William Olson of Fairfield was elected president, Dr. F. B. Jones of Vallejo vice-president, and Dr. Henry G. Mello secretary-treasurer.

GENERAL

Persons who wish to be on the lecture program at the **Boston Clinical Meeting** of the American Medical Association, which is to be held November 29-December 2, 1955, are urged to communicate immediately with the chairman of the Program Committee, Theodore L. Badger, M.D., c/o Massachusetts Medical Society, 22 The Fenway, Boston 15.

Applications for space in the Scientific Exhibit are now available and will be sent on request, A.M.A. announced. Exhibits will supplement the lectures as far as possible, the A.M.A. said, and should portray subjects of a broad general interest. Requests for applications should be sent to the Secretary, Council on Scientific Assembly, American Medical Association, 535 N. Dearborn St., Chicago 10, Illinois.

POSTGRADUATE EDUCATION NOTICES

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Announces the following summer courses:

4th Annual Laboratory Technicians Symposium—June 18 and 19, 1955.

Chemotherapy of Fungus Disease—June 23-25, 1955.

Surgery of the Elbow and Shoulder—July 19 and 20, 1955.

Surgery of the Hand—July 21 and 22, 1955.

Recent Advances in Medicine—July 25-29, 1955.

Basic Techniques of Hypnosis—August 8, 9 and 10, 1955.

Advanced Techniques and Application of Hypnosis—August 10, 11 and 12, 1955.

Anesthesia—August 29, 30 and 31, 1955.

Contact: Thomas H. Sternberg, M.D., Director of Postgraduate Medical Education, U.C.L.A., Los Angeles 24.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

In San Francisco:

Pediatric Conference—June 27 through July 1, 1955.

Conference on Applied Therapeutics—October 17, 18 and 19.

Conference on Gynecology and Obstetrics—October 20 and October 21.

Ophthalmological Conference—December 5 to December 7.

In East Oakland:

Medicine for General Practitioners—Tuesday evenings, September 20 to December 6.

In Berkeley:

Postgraduate Institute—Wednesday evenings, Herrick Memorial Hospital, October 19 through November 23.

In San Mateo:

Evening Lectures in Medicine—Thursday evenings, September 22 to December 15.

Contact: Office of Medical Extension, University of California Medical Center, San Francisco 22.

COLLEGE OF MEDICAL EVANGELISTS

Announces graduate courses:

General Surgery and Surgical Specialties—October 3 to June 10, 1956.

Internal Medicine—October 3 to June 10, 1956.

Otolaryngology—October 3 to June 10, 1956.

Contact: Chairman, Section on Graduate and Postgraduate Medicine, College of Medical Evangelists, 1720 Brooklyn Ave., Los Angeles 33.

CALIFORNIA MEDICAL ASSOCIATION, POSTGRADUATE ACTIVITIES INSTITUTES

SACRAMENTO VALLEY COUNTIES—Cal-Neva Biltmore Hotel and Lodge—June 15, 16, 17, 1955.

Contact: C. A. Broaddus, M.D., Director of Postgraduate Activities, P.O. Box A-1, Carmel, California.

Medical Dates Bulletin

THIS BULLETIN of the dates of postgraduate education assemblies and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: C. A. Broaddus, M.D., Director, Postgraduate Activities, P.O. Box A-1, Carmel, California.

JUNE MEETINGS

AMERICAN MEDICAL ASSOCIATION announces: Annual Session, 1955, Atlantic City, June 6 to 10, 1955.

CALIFORNIA MEDICAL ASSOCIATION Cancer Commission Cancer Conference—Inyo-Mono County Medical Society, Bishop, June 28.*

STATE BOARD OF MEDICAL EXAMINERS Oral Examination for Reciprocity Applications, San Francisco, June 18.†

STATE BOARD OF MEDICAL EXAMINERS Oral and Clinical Examinations for Foreign Medical School Graduates, San Francisco, June 19.†

STATE BOARD OF MEDICAL EXAMINERS Written Examination, San Francisco, June 21-23.†

AUGUST MEETINGS

STATE BOARD OF MEDICAL EXAMINERS Oral Examination for Reciprocity Applications, Los Angeles, August 20.†

STATE BOARD OF MEDICAL EXAMINERS Written Examination, Los Angeles, August 23-25.†

STATE BOARD OF MEDICAL EXAMINERS Oral and Clinical Examinations for Foreign Medical School Graduates, Los Angeles, August 21.†

OCTOBER MEETINGS

CALIFORNIA SOCIETY OF INTERNAL MEDICINE meeting at Biltmore Hotel, Santa Barbara, October 1, 1955.

Contact: Mildred D. Coleman, secretary, 384 Post St., San Francisco.

SAN FRANCISCO HEART ASSOCIATION announces the Twenty-sixth Annual Postgraduate Symposium on Heart Disease, at St. Francis Hotel, San Francisco. October 5, 6, 7, 1955.

Contact: 604 Mission St., San Francisco 5.

SAN DIEGO COUNTY HEART ASSOCIATION Annual Symposium on Heart Disease, U. S. Naval Hospital, Auditorium, Balboa Park, San Diego, October 11.

Contact: H. Jack Hardy, executive secretary, 1651 Fourth Avenue, San Diego.

LOS ANGELES COUNTY HEART ASSOCIATION 25th Annual Symposium on Cardiovascular Diseases, Wilshire-Ebell Theater, Los Angeles, October 12 and 13.

Contact: Los Angeles County Heart Association, 316 So. Bonnie Brae Street, Los Angeles.

The 1955 Scientific Assembly of the CALIFORNIA ACADEMY OF GENERAL PRACTICE will be held in San Francisco, at the Sheraton-Palace Hotel, October 9-12, 1955.

Contact: William W. Rogers, executive secretary, 461 Market St., San Francisco.

STATE BOARD OF MEDICAL EXAMINERS Written Examination, Sacramento, October 18-20.†

NOVEMBER MEETINGS

AMERICAN MEDICAL ASSOCIATION announces: Clinical Session, 1955, at Boston, November 29 to December 2, 1955.

STATE BOARD OF MEDICAL EXAMINERS Oral Examination for Reciprocity Applications, San Francisco, November 12.†

STATE BOARD OF MEDICAL EXAMINERS Oral and Clinical Examinations for Foreign Medical School Graduates, San Francisco, November 13.†

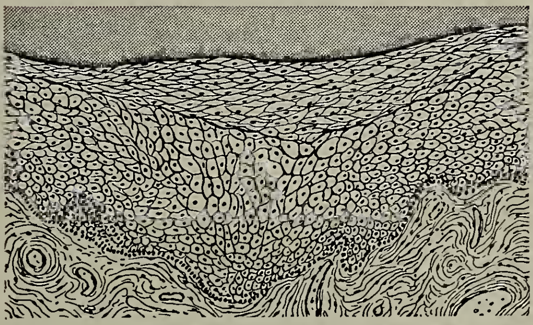
**For information contact:* Walter E. Batchelder, M.D., medical director, C.M.A. Cancer Commission, 467 O'Farrell Street, San Francisco.

†*For information contact:* Louis E. Jones, M.D., secretary-treasurer, California State Board of Medical Examiners, Room 536, 1020 N Street, Sacramento. (Note: Applications must be on file at least two weeks before examination dates.)

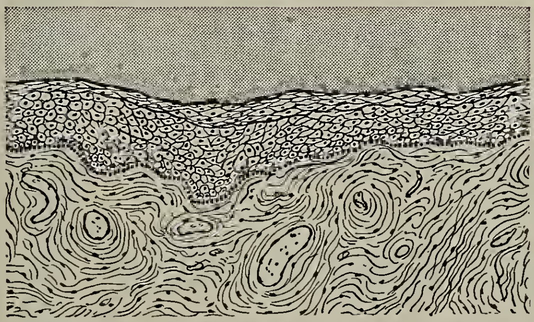
VALLESTRIL® — THE SELECTIVE ESTROGEN

‘Target Action’ on Vaginal Mucosa

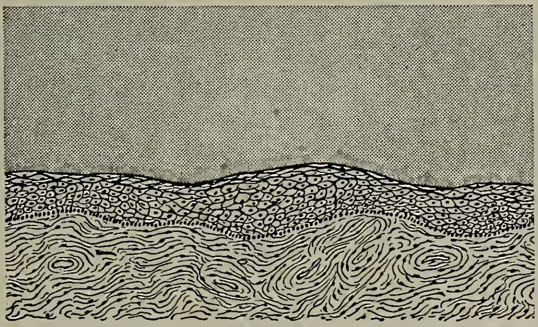
> “*Vallestril is an effective synthetic estrogen . . .*
> *singularly free from toxic effects and*
> *complications, especially uterine bleeding.*”*



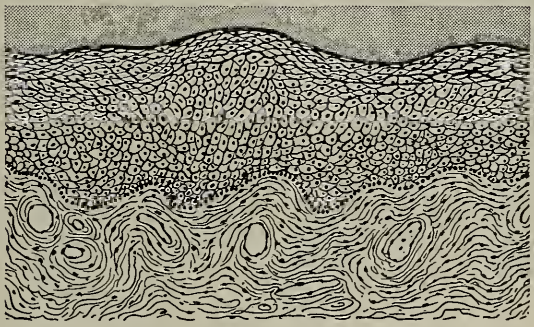
Adult vaginal epithelium maintained by estrogen activity.



During menopause, mucosa reverts to the infantile type.



Postmenopausal mucosa—thinning and atrophy of layers.



Vallestril slows transitional phase during menopause.

Vallestril, brand of methallenestril, is preferentially indicated whenever estrogens are of value. Its selective “target action” is on the vaginal mucosa with a minimal effect on the endometrium and, therefore, the incidence of withdrawal bleeding is exceedingly low.

> “The failure to encounter withdrawal bleeding in any patient was most gratifying . . . unique as well as clinically advantageous.”*

Vallestril quickly controls menopausal symptoms, the pain of postmenopausal osteoporosis and the pain of osseous metastases of prostatic carcinoma.

DOSAGE: Menopause: One tablet (3 mg.) two or three times daily for two or three weeks, followed by one or two tablets daily for one month or longer depending on the patient’s response to therapy. Supplied only in scored tablets of 3 mg. G. D. Searle & Co., Research in the Service of Medicine.

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*Sturnick, M. I., and Gargill, S. L.: New England J. Med. *247*:829 (Nov. 27) 1952.

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American Medical Association Committee Report on Fee Splitting Problems

A special committee of the American Medical Association recently offered a four-point program to correct the basic economic causes of fee splitting within the profession.

The Committee on Medical Practices, which was appointed by the A.M.A. Board of Trustees early in 1954, recommended that:

1. A special committee be created to work on a relative value scale, based on points and not dollars, for the whole of the practice of medicine and surgery. It would indicate the proper relation between fees for various medical and surgical specialties.

2. A program of public education on the value of diagnostic and medical work be fostered to increase the public's appreciation of nonsurgical work.

3. The American Medical Association encourage the various specialty boards in medicine to reappraise the value of their regulations restricting the practice of those seeking or holding board certificates.

4. The American Medical Association continue to discourage arbitrary restrictions by hospitals against general practitioners.

Dr. Dwight H. Murray, Napa, California, chairman of the A.M.A. Board of Trustees, termed the report "the most constructive and exhaustive relating to the problem of fee splitting ever written.

"It not only pinpoints the many factors involved, but it is proof-positive that the medical profession as an organization is sincere in trying to police its own ranks and correct situations which are not in the best interests of all patients, young and old, which make up the general public."

"There are many facets of this age-old problem," Dr. Murray continued, "and a close study of the entire report shows that changes in practices cannot be made in one sweeping gesture. Any faults associated with fee splitting must be corrected through a step-by-step procedure. That is going to be our paramount aim as outlined by the committee itself."

The committee's report, which is published in the current issue of the *Journal of the American Medical Association,* was first submitted to the board of trustees which gave it many hours of study. The board, in turn, will submit it to the House of Delegates, the policy-making body of the American Medical Association, when it meets in Atlantic City, June 6-10, during the annual convention of the organization. At that time, the house can either accept or reject the report. Until the house has acted, the report does not become a policy statement of the American Medical Association as an organization.

The report, which was written only after interviews with both physicians and patients in various

(Continued on Page 60)

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Fellows CHLORAL HYDRATE

FELSULES
7½ gr.
3¾ gr.
THE ORIGINAL CHLORAL HYDRATE CAPSULES
RECTULES
10 gr.
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RAPIDLY ABSORBED
NON-IRRITATING
WATER-MISCIBLE
LIQUID
PERMITS FLEXIBLE DOSAGE
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and
RELAXATION!

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American Medical Association Committee Report on Fee Splitting Problems

(Continued from page 58)

sections of the country, delved deeply into the basic economic causes of fee splitting. In this respect, the report said:

"The committee found general agreement among doctors that there are greater financial rewards for the practice of surgery than for the practice of medicine. This discrepancy results from a low public evaluation of medical and diagnostic services as compared to high public evaluation of surgery. Recognizing this inequity, some surgeons willingly split their fees with other physicians in an effort to correct personally the resulting economic injustice. The higher surgical fee also creates intense competition for surgical patients. Some surgeons offer, or feel themselves forced to submit to demands for, a split of the surgical fee 'to meet the competition.' Once this practice takes hold in a community, more and more surgeons feel obliged to adopt the practice.

"Further, the committee found that the restrictions of some surgical specialty boards work an economic hardship on the young surgeon. He has little or no referred work and is permitted to do no general practice. He sometimes feels that he is forced

(Continued on page 64)

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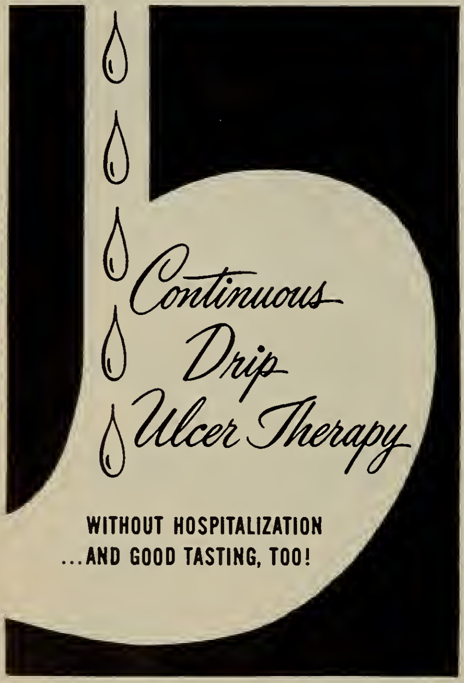

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A recent clinical study* of 46 ambulatory nonhospital patients treated with Nulacin† and followed up to 15 months describes the value of ambulatory continuous drip therapy by this method. Total relief of symptoms was afforded to 44 of 46 patients with duodenal ulcer, gastric ulcer and hypertrophic gastritis.

The delicately flavored tablets dissolve slowly in the mouth (not to be chewed or swallowed). They are not noticeable and do not interfere with speech.

Nulacin tablets are supplied in tubes of 25 at all pharmacies. Physicians are invited to send for reprints and clinical sample.

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*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. 22:67 (Mar.) 1955.

†Mg trisilicate 3.5 gr.; Ca carbonate 2.0 gr.; Mg oxide 2.0 gr.; Mg carbonate 0.5 gr.

"In control of conception

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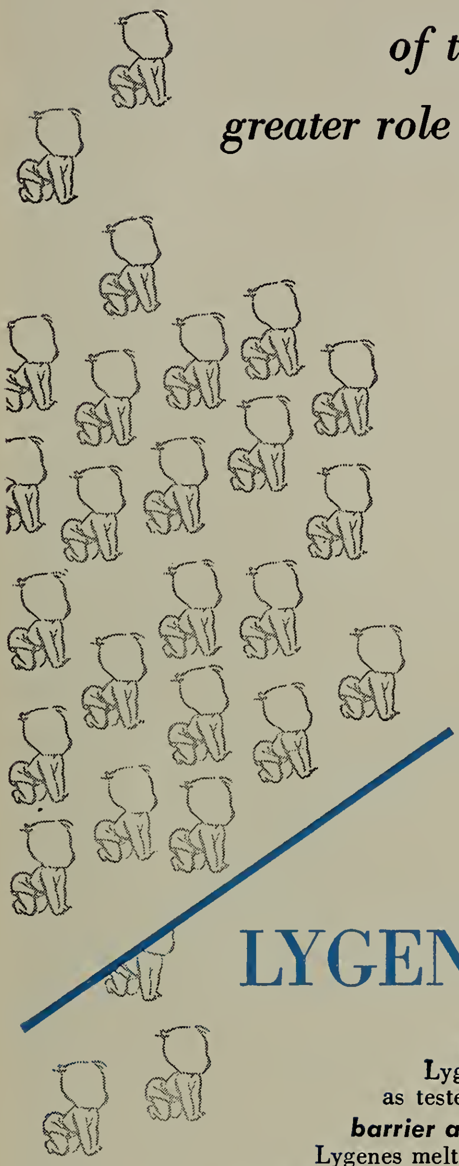
of the prescription probably plays a greater role in use and therefore effectiveness than in most fields of medicine".

—New and Nonofficial Remedies, 1954.



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After 12 years' study of various simple contraceptive methods in 573 parous women, Eastman and Seibels[1] report an average pregnancy rate of 4.5 for all technics evaluated. Among these methods, the highest effectiveness rate was achieved with suppositories.

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[1] J.A.M.A. 139:16 (Jan.1) 1949

[2] Human Fertil. 6:1 (Feb.) 1941

Active ingredients of each 2.25 Gm. Lygenes suppository are: Zinc phenosulfonate, 0.50%; Hydroxyquinoline benzoate, 0.30%; p-Chloro-sym.-m-xylenol, 0.05%; p-tert.-Amylphenol, 0.05%; Boric acid, 0.10%.

American Medical Association Committee Report on Fee Splitting Problems

(Continued from page 60)

into fee splitting to do enough surgery to use his training, to pay his overhead, and to support his family. Arbitrary hospital restrictions on general practitioners, where they occur, create another set of economic hardships and frank hostility, particularly among those with special training in surgery that they are not permitted to utilize. As a result, some demand a split of the surgeon's fee.

"If these factors are the basic economic causes of fee splitting, the committee can see little hope of ending the practice with plans imposing more oaths, rules, restrictions, CPA audits, and inspections. Such plans have the single advantage of providing the doctor who wants to stop splitting fees with the support of a like-minded group. But there is a long human history of broken oaths and regulations where law does not conform to the realities of a situation . . ."

In an appended statement to the committee's report, the board of trustees said "the vast majority of physicians are honest and sincere, but there are those who, because of dishonesty or because of economic or financial pressure, disregard standards of ethics and flaunt the fundamental principles of right and wrong. These are the ones who reflect discredit on the entire profession."

The board suggested two general courses of action to combat unethical practices: (1) To remove the factors that tempt physicians to be unethical; (2) To discipline those who are guilty.

Several years ago mediation committees were set up at the local level to arbitrate patients' complaints and the board said that these committees "must be encouraged to fulfill their obligations."

The committee on medical practices was formulated as a result of a resolution adopted by the A.M.A. House of Delegates at its clinical meeting in St. Louis in December, 1953. The house empowered the board of trustees to appoint the committee, which was made up of the following:

Drs. Stanley R. Truman, Oakland, Calif., chairman; Felix L. Butte, Dallas; John S. DeTar, Milan, Mich.; James Q. Graves, Monroe, La.; Ernest E. Irons, Chicago; Leland S. McKittrick, Brookline, Mass., and Walter L. Palmer, Chicago.

Text of complete report follows.

COMPLETE REPORT OF THE COMMITTEE ON MEDICAL PRACTICES

The Board of Trustees has received a report from the special Committee on Medical Practices, which was appointed to study the basic causes of fee splitting and other unethical practices that have been the subject of adverse publicity for the profession. The committee recognized that any effort to determine the incidence or geographic spread of such practices would be prohibitively expensive. Its method of study was therefore through interviews with doctors and patients. It was primarily a qualitative rather than a quantitative study and the interviewers frequently spent hours with those being interviewed. The committee continued its research to a point where it felt that further interviews would only produce a repetition of the results obtained. Analyzing its findings, the committee arrived at certain general conclusions and offered several recommendations (sections 1, 2, and 3).

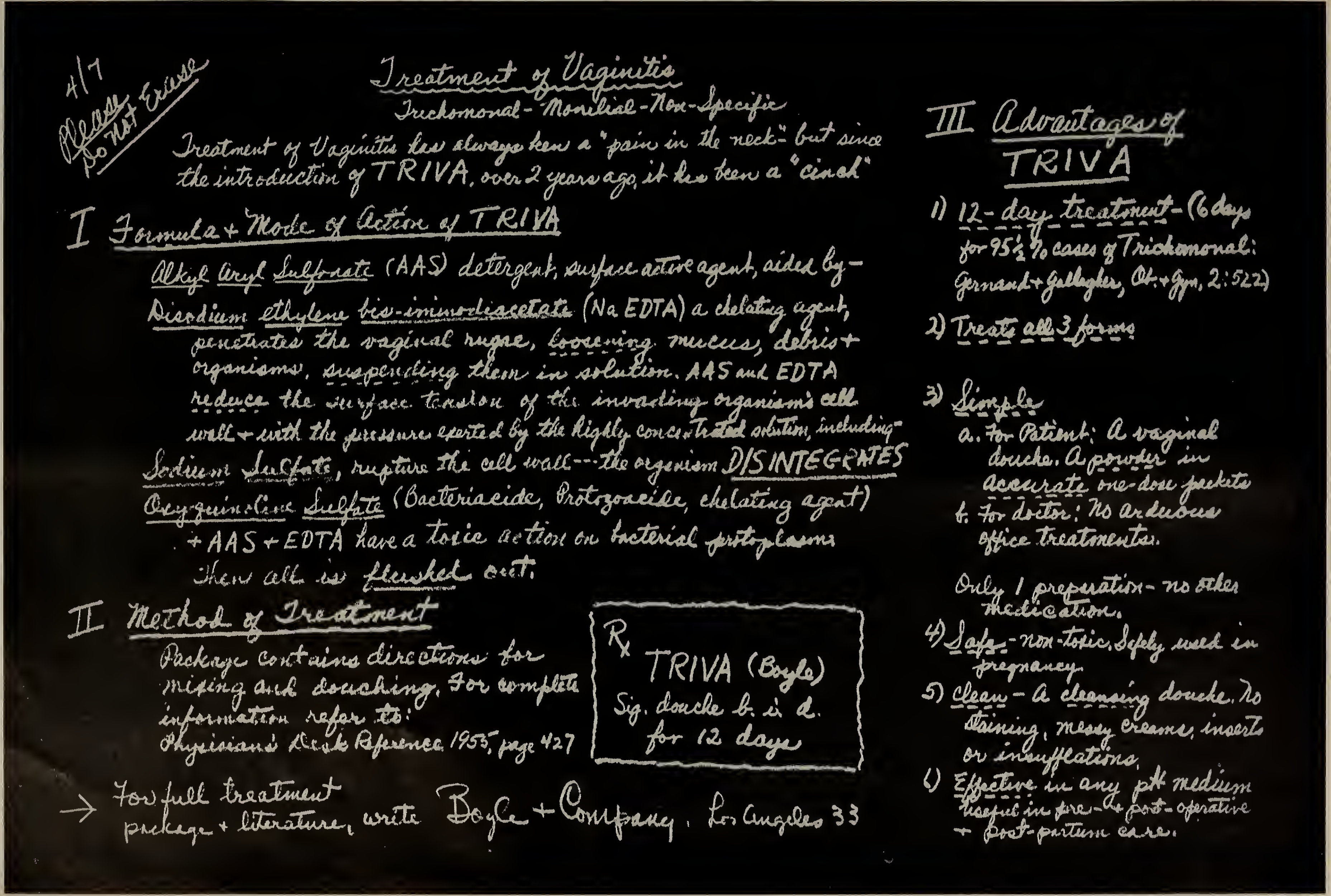
Section 1

The committee found general agreement among doctors that there are greater financial rewards for the practice of surgery than for the practice of medicine. This discrepancy results from a low public evaluation of medical and diagnostic services as compared to high public evaluation of surgery. Recognizing this inequity, some surgeons willingly split their fees with other physicians in an effort to correct personally the resulting economic injustice. The higher surgical fee also creates intense competition for surgical patients. Some surgeons offer, or feel themselves forced to submit to demands for, a split of the surgical fee "to meet the competition." Once this practice takes hold in a community, more and more surgeons feel obliged to adopt the practice. Further, the committee found that the restrictions of some surgical specialty boards work an economic hardship on the young surgeon. He has little or no referred work and is permitted to do no general practice. He sometimes feels that he is forced into fee splitting to do enough surgery to use his training, to pay his overhead, and to support his family. Arbitrary hospital restrictions on general practitioners, where they occur, create another set of economic hardships and frank hostility, particularly among those with special training in surgery that they are not permitted to utilize. As a result, some demand a split of the surgeon's fee.

If these factors are the basic economic causes of fee splitting, the committee can see little hope of ending the practice with plans imposing more oaths, rules, restrictions, CPA audits, and inspections. Such plans have the single advantage of providing the doctor who wants to stop splitting fees with the support of a like-minded group. But there is a long human history of broken oaths and regulations where law does not conform to the realities of a situation. The committee recommends, therefore, a three point program to attack these basic economic causes of fee splitting:

1. That a subcommittee of the Committee on Medical Practices be created to begin work on a relative value scale for the whole of the practice of medicine and surgery. Such a committee could begin with the relative value scale produced by the thoracic sur-

(Continued on page 66)



4/7
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Treatment of Vaginitis

Trichomonal - Monilial - Non-Specific

Treatment of Vaginitis has always been a "pain in the neck" but since the introduction of TRIVA, over 2 years ago, it has been a "cinch"

I Formula + Mode of Action of TRIVA

Alkyl Aryl Sulfonate (AAS) detergent, surface active agent, aided by -

Disodium ethylene bis-iminodiacetate (Na EDTA) a chelating agent, penetrates the vaginal rugae, loosening mucus, debris + organisms, suspending them in solution. AAS and EDTA reduce the surface tension of the invading organism's cell wall + with the pressure exerted by the highly concentrated solution, including -

Sodium Sulfate, rupture the cell wall --- the organism DISINTEGRATES

Oxyquinoline Sulfate (Bacteriacide, Protozoacide, chelating agent) + AAS + EDTA have a toxic action on bacterial protoplasms

Then all is flushed out.

II Method of Treatment

Package contains directions for mixing and douching. For complete information refer to:
Physician's Desk Reference 1955, page 427

Rx TRIVA (Boyle)
Sig. douche b. i. d.
for 12 days

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III Advantages of TRIVA

1) 12-day treatment - (6 days for 95½ % cases of Trichomonal: Gernand + Gallagher, Ob. + Gyn, 2:522)

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   Only 1 preparation - no other medication.

4) Safe - non-toxic. Safely used in pregnancy.

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6) Effective in any pH medium. Useful in pre- + post-operative + post-partum care.

American Medical Association Committee Report on Fee Splitting Problems

(Continued from page 64)

geons (the only group that, as far as can be determined, has produced such a scale) and develop and broaden this approach, calling in as consultants representatives of general practice and all the specialties, as well as using the services of such nonmedical advisors as are needed. The scale it would produce would be in points, not in dollars. It would be an indication for both doctors and the public of the proper relation between fees for various medical and surgical services. Its existence would be of interest to underwriters of health insurance and to all organizations, both medical and nonmedical, that are concerned with fee schedules. As it proved its usefulness and as more and more people became aware of it the economic inequities that foster fee splitting would probably decrease.

2. That a program of public education on the value of diagnostic and medical work be fostered by the Department of Public Relations of the American Medical Association to increase public appreciation of nonsurgical work.

3. That the American Medical Association communicate to the specialty boards the findings of this survey, encouraging the boards to reappraise the value of their regulations restricting the practice of those seeking or holding board certificates (with consideration of the removal of the restrictions in keeping with good medical practice).

4. That the American Medical Association continue to discourage arbitrary restrictions by hospitals against general practitioners as a group.

SECTION 2

The committee's study included some analysis of the public feeling toward the profession. The committee found that many of the causes of public feeling against the profession, where it exists, are already being treated by the well-conceived public service and public information programs of the Department of Public Relations of the American Medical Association and of many state associations and county societies. The committee suggests that to strengthen these programs prominent and respected lay persons, such as judges, clergymen, and other civic leaders, should be invited to sit in with medical committees in handling the work of public protection and public service. This arrangement would bring public attitudes to the profession and provide disinterested testimony when the profession is unjustifiably attacked.

The committee pointed out two further areas in which misunderstanding underlies present evidence of public disaffection. Too many people think of medicine as an exact science and expect the doctor to be infallible, and the public is confused about the

(Continued on page 76)

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New! SERPASIL® ELIXIR
Each 4-ml. teaspoonful contains 0.2 mg. of Serpasil

Forgotten Man and Tonsils

Medicine's Forgotten Man, Kraus, G., *WHO Newsletter*, Vol. 7, No. 12, Dec. 1954 (Prof. Psychiatry Groningen, Holland). Public health includes mental health, but the latter is ill-taught. Most medical men are in love with the beautiful toys of modern science. Author includes names of rare diseases with these toys. Talk to medical students is all of diseases and not of patients. Patient has no name, only a number. Patients' hours in the waiting room breed anxiety, but examining doctor brushes off what is volunteered about anxieties. It is unfortunate that all medical training is given in hospital, with no opportunity for student to see patient in home. What a patient thinks about his disease is important for the management of his disease.

* * *

When Your Child Has His Tonsils Out, Jongkees, L. B. W. (Univ. Amsterdam). Psychological preparation for operation—the night away from parent, the big operating room, the smell of anesthetic, the spitting of blood, the postoperative pain—is possible

(Continued on page 80)

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P. P. Poliak, M.D.
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Ross Hendricks, M.D.
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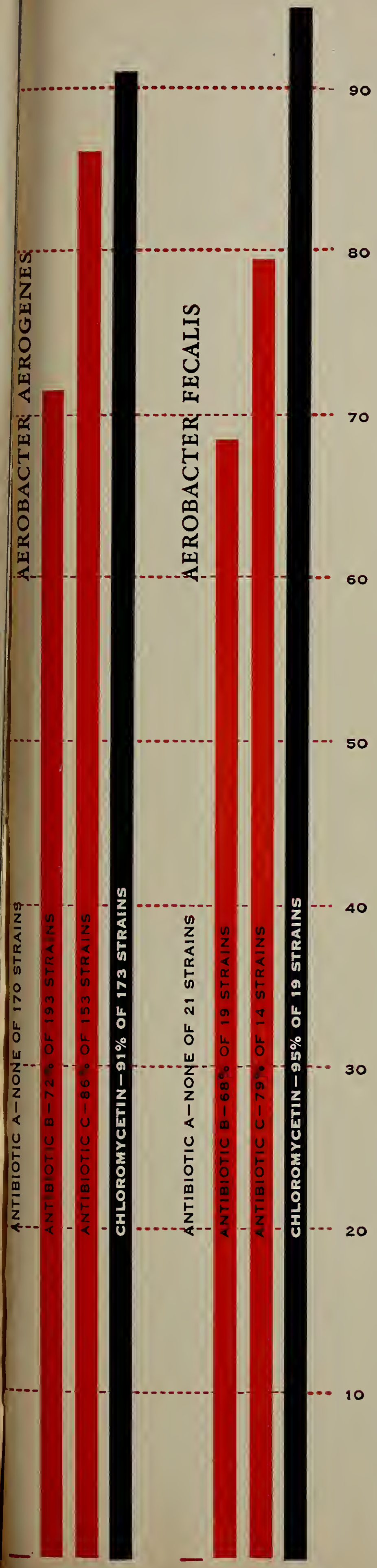

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CHLOROMYCETIN is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

Adapted from Altemeier, W. A.; Culbertson, W. R.; Sherman, R.; Cole, W.; Elstun, W., & Fultz, C. T.: *J.A.M.A.* 157:305 (Jan. 22) 1955.

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American Medical Association Committee Report on Fee Splitting Problems

(Continued from page 66)

dedication of doctors, feeling disappointment and often anger when the doctor reveals his normal and reasonable self-interest.

SECTION 3

The committee also studied the disciplinary system of medicine. A survey was made of various county societies to determine to what extent they were assuming responsibility for the maintenance of ethical standards of their members. The committee found some of the counties fulfilling their obligations, while others showed a lack of activity.

The committee believes that the profession might find the matter of self-discipline less vexing if some differentiation could be established between judgments of competence and judgments of ethics. It is logical that the hospital be the setting for evaluating a man's competence in his work. Ideally, the hospital should provide the teaching environment in which a doctor could grow and learn from other doctors. Once the question of competence is evaluated, however, there still remains the possibility that a man is not honest. If he is dishonest in the considered opinion of his peers, he should be dealt with in some more conclusive fashion than the mere rescinding of privileges. He should be removed from the company of ethical physicians and be deprived of their tacit endorsement.

The committee recommends that the Board of Trustees institute a study of procedures which might be used to protect the public from unethical practices and to protect the good name of the profession.

Conclusions and Recommendations of the Board of Trustees

The Board of Trustees has given serious consideration to the report of this special committee. The vast majority of physicians are honest and sincere, but there are those who, because of dishonesty or because of economic or financial pressure, disregard standards of ethics and flaunt the fundamental principles of right and wrong. These are the ones who reflect discredit on the entire profession.

The committee has suggested two general courses of action that can be taken in the effort to combat unethical practices: (1) to remove the factors that tempt physicians to be unethical, and (2) to discipline those who are guilty.

During recent years considerable activity has been carried on in these two fields by the profession through various councils and committees and the Department of Public Relations of the American Medical Association and through local and state mediation and grievance committees, but it is evident from the report of the committee that the work needs to be continued and to be intensified.

(Continued on page 84)

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shows **56%***

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(Continued from page 68)

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(Continued on page 92)

New Factor Discovered in Lead Poisoning

An unexplained compulsion to eat dried paint and other nonfoods has been found to accompany peeling paint around the home as a major cause of lead poisoning among very young children.

This abnormal, indiscriminate appetite—known as pica—is not a random kind of behavior, but is "strongly motivated," according to a report in a recent issue of the *Journal of the American Medical Association.* It may result from emotional instability, the report said.

Dr. Robert B. Mellins, Chicago, of the U. S. Public Health Service, and C. David Jenkins, Chicago Board of Health psychologist, studied fifteen one-to-four-year-old children who survived lead poisoning. One survivor could not be studied. Five of the 21 cases reported in Chicago for 1953 were fatal.

Pica was found in 13 of the 15. This appetite included paint, fuel oil, mud, paper, wood, or crayon. Chief source of the lead causing poisoning was, in all cases, paint on walls, woodwork, and window sills. Almost all of the children lived in slum areas. Improved housing seems to be essential in preventing lead poisoning among children, the report said. Improved emotional health seems to be essential to prevent or control the appetite which causes children to eat poisonous material.

By questioning parents about children's pre-illness condition, it was determined that the fifteen survivors had been normal in general development except one who was "markedly retarded." Nine of the fifteen patients were considered normal emotionally. Five were considered "cranky," "whiny," or "a problem."

The taste for nonfood substances was the most prevalent single characteristic of the children before illness. In some cases the poisoned children had used "sneak tactics" or found alternate sources of paint, even when safe toys were given them to chew on.

No medical or nutritional reason for pica was revealed by a study of the children. Their behavior with others suggested that pica may have an emotional basis, and may be the result of aggressive feelings. Four of the fifteen often bit other children. After hospitalization, the pica was reduced in some cases, perhaps because of greater parental watchfulness or because the children were getting much more attention and affection. Vomiting, constipation, abdominal pain, weight loss, lethargy, irritability, and convulsions were the principal signs and symptoms of poisoning and appeared mostly during the summer, the researchers said.

Results of the poisoning were mental retardation, impairment of fine muscle movement and coordination between vision and movement, or death. Of the fifteen surviving children, only one remained of average intelligence. The rest became seriously below average in mental development, ranging from "dull and backward" to moronic.

A New Future

FOR THE HYPERTENSIVE

Because of the tendency of hypertension to progress from mild to severe, it is all the more important to institute therapy in the early stages of the disease, long before the fundi show any changes, in the aim to arrest progression.[1] The management of early, labile hypertension proves rewarding to both patient and physician. Of such mild cases, up to 80 per cent respond to therapy with Rauwiloid alone.[2] In the more advanced cases of hypertension Rauwiloid—in addition to its own beneficial actions—reduces significantly the dosage requirements of more potent hypotensive drugs when used in combination with them.

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"One has...every reason to believe that the disease may now be controlled in its incipiency and consequently the serious later complications prevented ..."[3] Early management, carried out with the ease and simplicity afforded by Rauwiloid, yields rich returns—not only in the resultant tranquil sense of well-being and control of hypertensive symptoms, but also in a confident outlook to a new future of prolonged useful life.

The dosage of Rauwiloid is definite...merely two 2 mg. tablets at bedtime. For maintenance, one tablet often suffices. No contraindications...no cumulative side actions.

1. Finnerty, F. A., Jr.: The Value of Rauwolfia Serpentina in the Hypertensive Patient, Am. J. Med. *17*:629 (Nov.) 1954.
2. Moyer, J. H., in discussion of Galen, W. P., and Duke, J. E.: Outpatient Treatment of Hypertension with Hexamethonium and Hydralazine, South. M. J. *47*:858 (Sept.) 1954.
3. Livesay, W. R.; Moyer, J. H., and Miller, S. I.: Treatment of Hypertension with Rauwolfia Serpentina Alone and Combined with Other Drugs; Results in Eighty-Four Cases, J.A.M.A. *155*:1027 (July 17) 1954.

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Forgotten Man and Tonsils

(Continued from page 72)

only for those children with whom one can talk. But there are only a few that one can talk to effectively. Children must be handled gently and their questions answered patiently. Warning must be given of every novel action, and the sudden showing of terrifying instruments avoided. Otherwise psychic shock is likely. Author gives red lemonade immediately on awakening from anesthetic, the color hiding any blood running back into glass.

R. R. NEWELL, M.D.

"New" Theory on Skin Disease Shown To Be Not So New

The supposedly modern notion that many skin diseases result from psychological difficulties is not so new after all, a Pittsburgh physician states. The writers of the Bible knew about it some two thousand years ago.

The story of Job, whether believed to be a religious drama or an historical document, is typical of the mysterious cases seen by the modern physician, according to Dr. William B. Guy, writing in a recent issue of *Archives of Dermatology*, published by the American Medical Association.

(Continued on page 88)

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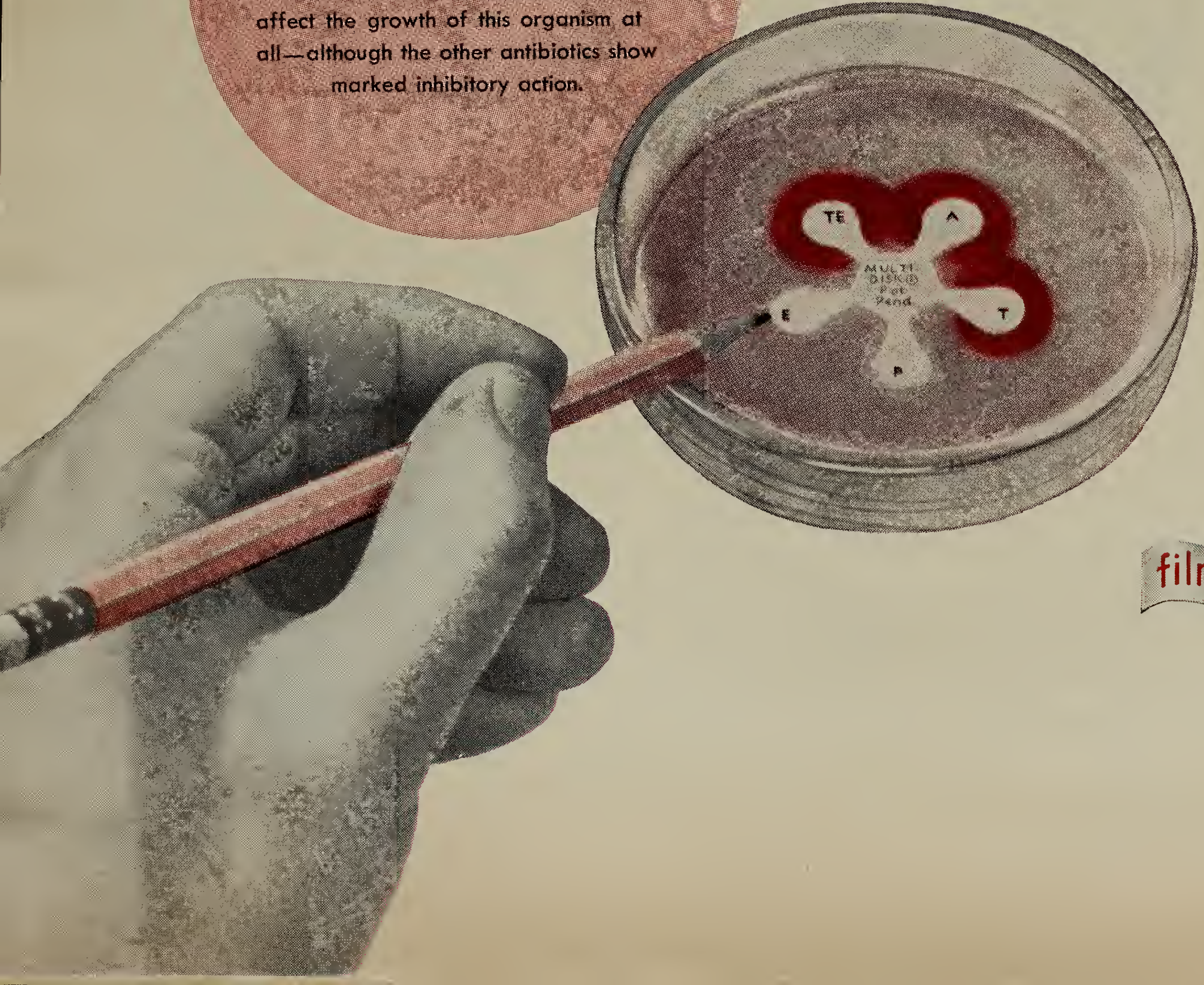

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American Medical Association Committee Report on Fee Splitting Problems

(Continued from page 76)

The Board would encourage other specialty groups or some county or district medical societies to conduct a study of a "relative value scale" such as has been produced by the thoracic surgeons. The Board believes that such pilot studies should be made before any extensive study on a national level is attempted.

In line with the recommendations of the committee, the Board has instructed the Department of Public Relations to incorporate into its educational program (1) an explanation of the value of diagnostic and medical work and procedures, and (2) an interpretation of the place of the physician in society—that he is a member of a profession whose prime object is to render service, but that he is also an individual who makes his living from his work and, like other men, is worthy of his hire.

The Board is determined that the public and the good name of the profession shall be protected from the small minority of physicians who engage in unethical practices. Mediation committees must be encouraged to fulfill their obligations, and they might well adopt the recommendations of the committee with reference to soliciting the support of leaders outside the profession. County and state societies must be stimulated to put their own houses in order when it becomes necessary. The Joint Commission on Accreditation of Hospitals must be encouraged in its efforts to effect and maintain high standards of professional work in hospitals.

The Board is assured that the Judicial Council of the American Medical Association is making a continuing study of those procedures that can be further developed within the framework of the Association to promote ethical practices and to stamp out unethical procedures.

In compliance with the request of the committee, the Board is sending a copy of this statement to the various specialty boards with the request that they give it careful study.

In conclusion, the Board wishes to express its sincere thanks and appreciation to Dr. Stanley R. Truman, the chairman, and to the members of the special committee for their work and for the stimulating report they have presented.

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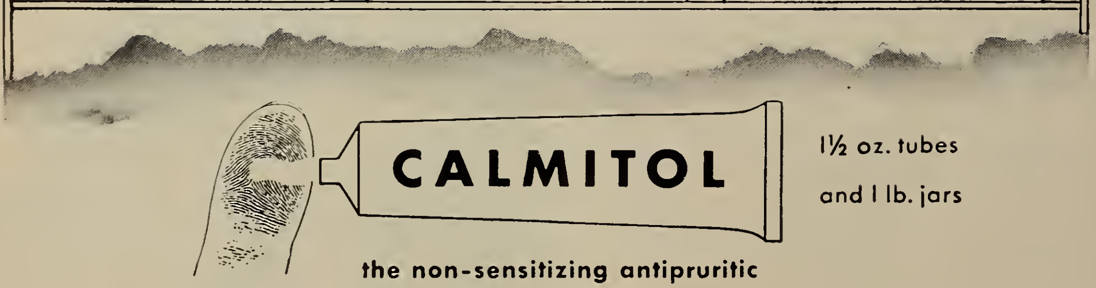

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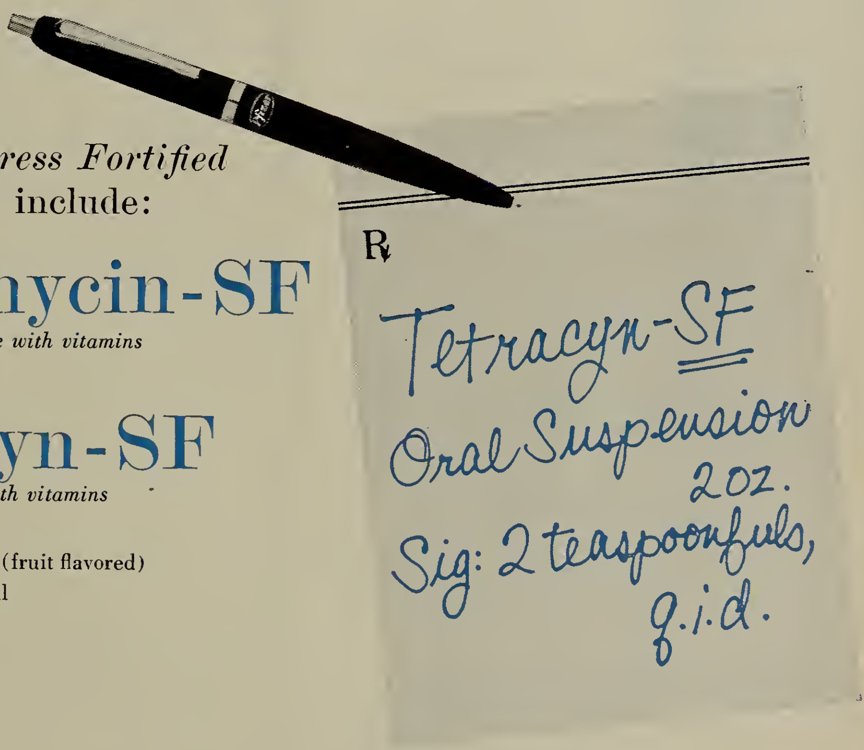

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Thiamine mononitrate	10 mg.	Vitamin B_{12} activity	4 mcg.
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Niacinamide	100 mg.	Menadione (vitamin K analog)	2 mg.
Pyridoxine hydrochloride	2 mg.		

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"New" Theory on Skin Disease Shown To Be Not So New

(Continued from page 80)

Dr. Guy said Job's disease and recovery are as baffling as the psychosomatic cases of the modern dermatologist's office. Job, he explained, was "a pious man and very prosperous." He had a large family, immense herds of livestock, and was as good as he was great.

Permission to test Job's religion was given to Satan by God, and Job was stricken by a terrible skin disease. After losing his property, his family, and fleeing the city, he finally cursed the day he was born and begged God to explain to him why he was afflicted.

In answer to this wish God spoke "out of a whirlwind," Dr. Guy said. He told Job to look around and observe the wonder and mystery of the world, and realize the omnipotence of the Almighty. Job was satisfied, and repented.

Miraculously, his health was restored and his prosperity doubled. He died "old and full of days."

The reasons for Job's physical sufferings were never explained, Dr. Guy said. Neither was his cure—but perhaps his spiritual experience had a soothing effect which healed him.

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California
MEDICINE

INDEX TO VOLUME 82, JANUARY-JUNE, 1955

AUTHOR INDEX

PAGE

A

Adams, Ralph M., *Los Angeles* 167
Amyes, Edwin W., *Beverly Hills* 167
Archibald, Herbert C., *Oakland* 186

B

Barron, Gilbert, *Berkeley* 188
Barton, Richard Thomas, *Los Angeles* 399
Bauer, Julius, *Los Angeles* 338
Beckner, George, *Los Angeles* 151
Benioff, Mortimer A., *San Francisco* 102
Bercel, Nicholas A., *Beverly Hills* 107
Bergmann, Werner, *Oakland* 325
Black, John R., *Los Angeles* 303
Boland, Edward W., *Los Angeles* 65
Brauner, Erwin P., *San Francisco* 396
Brooks, Milo B., *Los Angeles* 13
Burstein, Sandor, *San Francisco* 45

C

Chapman, W. Max, *Berkeley* 309
Comarr, A. Estin, *Long Beach* 332
Corley, C. L., *Los Angeles* 163

D

Deeb, Paul H., *Los Angeles* 167
Denenholz, Edward J., *Modesto* 8
Dorinson, S. Malvern, *San Francisco* 319

E

Ellis, Frank W., *Long Beach* 400
Engleman, Ephraim P., *San Francisco* 367
Epstein, Ervin, *Oakland* 116

F

Failing, Joseph H., *San Marino* 32
Falk, Hans L., *Los Angeles* 19
Farber, Seymour M., *San Francisco* 102
Feeney, Michael J., *San Diego* 379
Feher, George S., *Modesto* 8
Firestone, George M., *Santa Rosa* 145

G

Gaster, Joseph, *Los Angeles* 39
Gilbert, Jarvey, *Burbank* 114

KEY TO ABBREVIATIONS USED

(Or.)—Original Article; (Ed.)—Editorial; (CMA)—California Medical Association; (CR)—Case Report; (I)—Information; (LE)—Letters to the Editor; (MJ)—Medical Jurisprudence.

PAGE

Goorwitch, Joseph, *Los Angeles* 48
Graves, Clifford L., *San Diego* 426
Grimes, Orville F., *San Francisco* 77
Grossman, Moses, *San Francisco* 96, 192
Guiss, Lewis W., *Los Angeles* 385
Guttman, Paul H., *Sacramento* 25

H

Hall, Robert A., *Agnew* 447
Hassard, Howard, *San Francisco* 59
Heidenreich, Eugene H., *Los Angeles* 338
Hinman, Frank, Jr., *San Francisco* 6
Holbert, Duncan A., *Santa Cruz* (LE) 130
Holder, Hall G., *San Diego* 426
Howe, Gerald E., *San Diego* 383

J

Jaffe, Henry L., *Los Angeles* 121
Jones, F. Avery, *London, England* 430

K

Kepler, Milton O., *Fresno* 47
Kinsell, C. Seybert, *Santa Barbara* 460
Knauer, John, *Bakersfield* 159
Kotin, Paul, *Los Angeles* 19

L

Larson, Roger K., *Bakersfield* 159
Lawrence, John S., *Los Angeles* 1
Levin, Marcia, *San Francisco* 192
Lewis, Leon, *San Leandro* (LE) 132
Logan, Lloyd H., *San Francisco* 458

M

Marsh, Robert Lee, *Glendale* 99
Martini, Mario Michael, *Pacific Palisades* 189
Mathé, Charles Pierre, *San Francisco* 458
Maxson, Eugene S., *San Diego* 383
May, James A., *San Diego* 171
McGee, Wm. Buster, *San Diego* 306
Melody, George F., *San Francisco* 16
Merrill, Malcolm H., *Berkeley* 309
Mettier, Stacy R., *San Francisco* 181
Miller, Earl R., *San Francisco* 6
Miller, Gerald M., *San Francisco* 6
Morrison, Arlo A., *Ventura* 421
Mullenix, Ralph B., *San Diego* 379
Myerson, Mervin C., *Beverly Hills* 111

N

Negri, Max, *Los Angeles* 125
Nelson, Lawrence M., *Santa Barbara* 127

Nickel, Eldon, *San Francisco* 6
Nielsen, J. M., *Los Angeles* 330
Norman, Frank W., *Santa Rosa* 124

O

O'Neill, Richard, *San Francisco* 192

P

Phillips, Edward, *Los Angeles* 118
Pobirs, Frederick W., *Los Angeles* 121
Pollack, Robert S., *San Francisco* 444
Prentiss, Robert J., *San Diego* 379

R

Rivin, Arthur U., *Los Angeles* 399
Rosenbloom, David, *Los Angeles* 454
Rubinstein, Michael A., *Beverly Hills* 440

S

Sampson, John J., *San Francisco* 45
Sanazaro, Paul J., *San Francisco* 340
Severy, Wendell L., *Los Angeles* 436
Shaw, Christopher C., *Philadelphia, Pa.* 293
Shaw, Edward B., *San Francisco* (LE) 131
Shelton, James T., *Porterville* 388
Silvis, Richard Shippen, *Oakland* 326
Slate, Thomas A., *San Diego* 306
Smith, Judith D., *San Francisco* 102
Steinbach, Howard L., *San Francisco* 6
Stimmel, Benjamin F., *San Diego* 171
Stirrett, R. Lancey, *Pasadena* 125
Stone, Robert B., *Oakland* 176

T

Teicher, Joseph D., *Los Angeles* 392
Thompson, James H., *San Francisco* 91
Thuesen, Andrew E., *Santa Rosa* 179
Tragerman, L. J., *Los Angeles* 163

V

Valentine, William N., *Los Angeles* 1
Vogel, Philip J., *Los Angeles* 167

W

Wehrle, Paul F., *Baltimore* 314
Welch, E. P., *San Francisco* 35
Whisenand, James M., *San Diego* 379
Whiting, E. Gale, *Berkeley* 188
Wilkening, Ralph L., *Bakersfield* 159
Winsor, Travis, *Los Angeles* 151
Winter, Chester C., *Los Angeles* 85
Wright, Wayne, *Oakland* 450

Z

Zall, Morton, *Los Angeles* 322

SUBJECT INDEX

A

Abdominal Incisions for Operations on the Colon and Rectum, Richard Shippen Silvis (Or.) 326
Abnormal Hemoglobins—Clinical Disorders Resulting from Various Combinations, John S. Lawrence and William N. Valentine (Or.) 1
Absence of Coronary Thrombosis in Navajo Indians, Jarvey Gilbert (Or.) 114
Air Pollution and Its Effect on Health, Paul Kotin and Hans L. Falk (Or.) 19
Allergic Children, Office Management of, Morton Zall (Or.) 322
Allergy Skin Testing (Ed.) 50
Amnesia, Studies in Traumatic (Retrograde), J. M. Nielsen (Or.) 330
Amyloidosis in Paraplegia—Correlation with Decubitus Ulcers, A. Estin Comarr (Or.) 332
Anesthesia for Eye Operations in the Aged, Joseph H. Failing (Or.) 32
Anesthesia, Spinal—Survey of Neurologic Complications, Hall G. Holder and Clifford L. Graves (Or.) 426
Anesthesia, Trichlorethylene, Use for Urologic Procedures in the Office, Andrew E. Thuesen (Or.) 179
Annual Session Highlights (Ed.) 462
Annual Session Program (CMA) 211
Aphthous Stomatitis—Failure of Local Hydrocortisone Therapy to Affect Healing Time, Arthur U. Rivin and Richard Thomas Barton (Or.) 399
Arthritides, Treatment of the, A Panel Discussion (Or.) 367
Arthritis, Rheumatoid, Diagnosis of, in Peripheral Joint Affliction, Stacy R. Mettier (Or.) 181
Artificial Kidney, Kolff-Merrill, The Clinical Application of, in Acute Renal Insufficiency, Christopher C. Shaw (Or.) 293
Aspirated Material, Distinctive Diagnostic Features of, from Marrow, in Metabolic Bone Diseases, Michael A. Rubinstein (Or.) 440

B

Barium Reduction of Intussusception in Infancy, Edward J. Denenholz and George S. Feher (Or.) 8
Benign Papilloma of the Ureter and Malignant Papillary Tumor of the Bladder, Charles Pierre Mathé and Lloyd H. Logan (CR) 458
(Bone) Marrow, Distinctive Diagnostic Features of Material Aspirated from, in Metabolic Bone Diseases, Michael A. Rubinstein (Or.) 440
Bronchiectasis, Planned Care for Patients with, Seymour M. Farber, Mortimer A. Benioff, and Judith D. Smith (Or.) 102

C

California Conference on Rural Health (I) 203
Cancer of the Lung, Detection of, Results of a Chest X-Ray Survey in Los Angeles, Lewis W. Guiss (Or.) 385
Carcinoma, Prostatic, Involving the Rectum—The Problem of Differentiation from Other Malignant Lesions, Chester C. Winter (Or.) 85
Cardiac Screening Procedures, Edward Phillips (Or.) 118
Cat-Scratch Disease, The Pathology of, Paul H. Guttman (Or.) 25
Cervix, Decidual Reaction of the, A report of 27 cases, Wm. Buster McGee and Thomas A. Slate (Or.) 306
Charnock, Donald A.—New President-Elect (CMA) 464
Chlorpromazine, Oral, Therapy, Severe Hypotensive Reaction to, Sandor Burstein and John J. Sampson (CR) 45
Cholinesterase Inhibiting Insecticides (Parathion), Chemical and Clinical Aspects, James H. Thompson (Or.) 91
Chronic Prostatitis—A Psychosexual Approach, David Rosenbloom (Or.) 454
Cigarettes, The Laryngologist Looks at, Mervin C. Myerson (Or.) 111

Cocaine and Niacin, A Report of Fixed Drug Eruptions Caused by, Lawrence M. Nelson (CR) 127
Coccidioidomycosis, Disseminated, and Boeck's Sarcoid, Coexistent Arrested, Frank W. Ellis (CR) 400
Coexistent Arrested Disseminated Coccidioidomycosis and Boeck's Sarcoid, Frank W. Ellis (CR) 400
Colitis, Ulcerative, F. Avery Jones (Or.) 430
Colon and Rectum, Abdominal Incisions for Operations on the, Richard Shippen Silvis (Or.) 326
Colostomy Care, Robert Lee Marsh (Or.) 99
Congenital Absence of the Vagina—Surgical Correction, Joseph Gaster (Or.) 39
Coronary Thrombosis, Absence of, in Navajo Indians, Jarvey Gilbert (Or.) 114

D

Decidual Reaction of the Cervix—A Review of 27 Cases, Wm. Buster McGee and Thomas A. Slate (Or.) 306
Decubitus Ulcers, Amyloidosis in Paraplegia, Correlation with, A. Estin Comarr (Or.) 332
Detection of Cancer of the Lung—Results of a Chest X-Ray Survey in Los Angeles, Lewis W. Guiss (Or.) 385
Determining the Site of Brain Tumors—Use of Radioactive Iodine and Phosphorus, Edwin W. Amyes, Paul H. Deeb, Philip J. Vogel, and Ralph M. Adams (Or.) 167
Distinctive Diagnostic Features of Material Aspirated from Marrow in Metabolic Bone Diseases, Michael A. Rubinstein (Or.) 440
Diuretics in Therapy of Epilepsy—Their Use for the Potentiation of Anticonvulsant Drugs, Nicholas A. Bercel (Or.) 107
Disability Evaluation, Permanent, E. P. Welch (Or.) 35
Drug Eruptions, Fixed, A Report of Two Cases Caused by Niacin and Cocaine, Lawrence M. Nelson (CR) 127
Duodenal Stenosis in a Newborn Child; Observation of a New Physical Sign, C. Seybert Kinsell (CR) 460

E

Eisenhower and Health (Ed.) 194
Enuresis—A Critical Review of the Symptom, Joseph D. Teicher (Or.) 392
Epidemiology of Poliomyelitis, A Study of an Outbreak in Payson, Utah, 1951, Paul F. Wehrle (Or.) 314
Epilepsy, Diuretics in the Therapy of—Their Use for the Potentiation of Anticonvulsant Drugs, Nicholas A. Bercel (Or.) 107
"Error Alone Is Not Negligence"—A Court's Order Bearing on Malpractice Actions (I) 202
Estrogen Metabolism in Men, James A. May and Benjamin F. Stimmel (Or.) 171
Eye Operations in the Aged, Anesthesia for, Joseph H. Failing (Or.) 32

F

Federal Health and Medical Services—Proposals of the Medical Task Force and of the Hoover Commission (I) 413
Fixed Drug Eruptions—A Report of Two Cases Caused by Niacin and Cocaine, Lawrence M. Nelson (CR) 127

G

Gastric Polyposis, Orville F. Grimes (Or.) 77
Group Practice Under a Fictitious Name (I) 418

H

Hands, Injured, Physical Medicine for, S. Malvern Dorinson (Or.) 319
Headache, Referred Pain in, Herbert C. Archibald (Or.) 186
Healed Dissecting Aneurysm of the Aorta—With Report of a Case, Paul J. Sanazaro (CR) 340
Health Insurance and Medical Practice in Germany, George M. Firestone, Santa Rosa (I) 145
Heart, Hypertrophy of, Travis Winsor and George Beckner (Or.) 151
Hemoglobins, Abnormal, John S. Lawrence and William N. Valentine (Or.) 1
Hemoglobinuria, Paroxysmal Nocturnal, Julius Bauer and Eugene H. Heidenreich (CR) 338
Hydrocortisone Therapy, Failure of, to Affect the Healing Time (of) Aphthous Stomatitis, Arthur U. Rivin and Richard Thomas Barton (Or.) 399
Hypertrophy of the Heart, Electrocardiographic Distinction Between Physiologic and Pathologic Conditions, Travis Winsor and George Beckner (Or.) 151
Hypodermic Needles, Protection for the Points of, Werner Bergmann (Or.) 325

I

Injuries to the Knee—Reconstruction of the Collateral Ligaments, John Black (Or.) 303
Instruction of Mothers in Well-Baby Care—A Program of "Talks" at Monthly Visits, Milo B. Brooks (Or.) 13
Intussusception in Infancy, Barium Reduction in, Edward J. Denenholz and George S. Feher (Or.) 8
Iron Lung, More on, Duncan A. Holbert (LE) 130
Leon Lewis (LE) 132
Edwin B. Shaw (LE) 131

K

Knee, Injuries to the, Reconstruction of the Collateral Ligaments, John Black (Or.) 303
Kolff-Merrill Artificial Kidney—Clinical Application in Acute Renal Insufficiency, Christopher C. Shaw (Or.) 293

L

Laboratory Technicians—Clinical Laboratory Law and Its Meaning to Private Physicians, Malcolm H. Merrill and W. Max Chapman (Or.) 309
Laryngologist Looks at Cigarettes, The, Mervin C. Myerson (Or.) 111
Leptospira Pomona Meningitis—A Report of Two Cases, Moses Grossman, Marcia Levin and Richard O'Neill (CR) 192
Leukorrhea, Psychosomatic, Milton O. Kepler (CR) 47
Listeria Monocytogenes Meningitis in an Infant, Frank W. Norman (CR) 124
Lung Abscess, Nontuberculous Giant, Complicating Tuberculosis Bronchostenosis, Joseph Goorwitch (CR) 48

M

Malpractice Actions, A Court Order Bearing on—"Error Alone Is Not Negligence" (I) 202
Malpractice Claims Prevention Programs—Are They Worth While? Howard Hassard (I) 59
Malpractice, X-Ray, and the Garrulous Physician, Ervin Epstein (Or.) 116
Marrow, Distinctive Diagnostic Features of Material Aspirated from, in Metabolic Bone Diseases, Michael A. Rubinstein (Or.) 440
Mass Surveys and Selective Case Finding—Two Tools for Tuberculosis Control, Erwin P. Brauner (Or.) 396
Massive Hemorrhage from a Laceration, Apparently Caused by Vomiting, in the Cardiac Region of the Stomach with Recovery, E. Gale Whiting and Gilbert Barron (CR) 188
Medical Care—Leadership Supplied by a Medical Association, Arlo A. Morrison (Or.) 421
Medical Research, Methodology in—The Need for Controlled Clinical Studies, Robert A. Hall (Or.) 447
Melanoma, Surgical Treatment of, Robert S. Pollack (Or.) 444
Meningitis—A Review of One Year's Cases from an Active Children's Hospital Service, Wendell L. Severy (Or.) 436

Meningitis, Leptospira Pomona, A Report of Two Cases, Moses Grossman, Marcia Levin and Richard O'Neill (CR) 192
Meningitis, Listeria Monocytogenes, in an Infant, Frank W. Norman (CR) 124
Methodology in Medical Research—The Need for Controlled Clinical Studies, Robert A. Hall (Or.) 447
Micturition, Normal, Frank Hinman, Jr., Gerald M. Miller, Eldon Nickel, Howard L. Steinbach, and Earl R. Miller (Or.) 6
Mothers, Instruction of, in Well-Baby Care, Milo B. Brooks (Or.) 13

N

Navajo Indians, Absence of Coronary Thrombosis in, Jarvey Gilbert (Or.) 114
Neurologic Complications, A Survey of (in) Spinal Anesthesia, Hall G. Holder and Clifford L. Graves (Or.) 426
Niacin and Cocaine, A Report of Two Cases of Fixed Drug Eruptions Caused by, Lawrence M. Nelson (CR) 127
Nontuberculous Giant Lung Abscess Complicating Tuberculous Bronchostenosis, Joseph Goorwitch (CR) 48
Normal Micturition—Certain Details as Shown by Serial Cystograms, Frank Hinman, Jr., Gerald M. Miller, Eldon Nickel, Howard L. Steinbach, and Earl R. Miller (Or.) 6

O

Office Management of Allergic Children, Morton Zall (Or.) 322

P

Papilloma, Benign, of the Ureter, and Malignant Papillary Tumor of the Bladder, Charles Pierre Mathé and Lloyd H. Logan (CR) 458
Paraplegia, Amyloidosis in, Correlation with Decubitus Ulcers, A. Estin Comarr (Or.) 332
(Parathion) Cholinesterase Inhibiting Insecticides, Medical Aspects of, James H. Thompson (Or.) 91
Paravaginal Hematomas—Their Recognition and Management Postpartum, George F. Melody (Or.) 16
Paroxysmal Nocturnal Hemoglobinuria, A Report of Two Cases, Julius Bauer and Eugene H. Heidenreich (CR) 338
Pathology of Cat-Scratch Disease, Paul H. Guttman (Or.) 25
Permanent Disability Evaluation, E. P. Welch (Or.) 35
Physical Medicine for Injured Hands, S. Malvern Dorinson (Or.) 319
Physician and Community Service, The (Ed.) 129
Physician's Role in Workmen's Compensation, The (I) 352
Planned Care for Patients with Bronchiectasis, Seymour M. Farber, Mortimer A. Benioff, and Judith D. Smith (Or.) 102
Poliomyelitis, The Epidemiology of, in Payson, Utah, 1951, Paul F. Wehrle (Or.) 314
Poliomyelitis Immunization (Ed.) 343
Poliomyelitis Vaccination Project (I) 363
(Poliomyelitis) Vaccine, Salk, Statement on Method of Introduction of (CMA) 465
Postural Shock in Pregnancy, Ralph L. Wilkening, John Knauer, and Roger K. Larson (Or.) 159
Pregnancy, Postural Shock in, Ralph L. Wilkening, John Knauer, and Roger K. Larson (Or.) 159
President-Elect, New—Donald A. Charnock (CMA) 464
Program of Treatment for Retarded Children, James T. Shelton (Or.) 388
Prophylactic Failure of 1500 Units of Tetanus Antitoxin—Report of Two Cases, Mario Michael Martini (CR) 189
Proposed Changes in Federal Medical Services (Ed.) 405
Prostatectomy in a County Hospital—A Review of 677 Cases in a Six-Year Period, Gerald E. Howe and Eugene S. Maxson (Or.) 383
Prostatectomy in Private Practice—A Review of 589 Cases in a Five-Year Period, Robert J. Prentiss, Ralph B. Mullenix, James M. Whisenand, and Michael J. Feeney (Or.) 379
Prostatic Carcinoma Involving the Rectum—The Problem of Differentiation from Other Malignant Lesions, Chester C. Winter (Or.) 85
Prostatitis, Chronic—A Psychosexual Approach, David Rosenbloom (Or.) 454
Protection for the Points of Hypodermic Needles, Werner Bergmann (Or.) 325
Psychosomatic Leukorrhea, Milton O. Kepler (Or.) 47
Pulmonary Hydatid Disease, Max Negri and R. Lancey Stirrett (CR) 125

R

Radioactive Iodine and Phosphorus, Use of, Determining the Site of Brain Tumors, Edwin W. Amyes, Paul H. Deeb, Philip J. Vogel, and Ralph M. Adams (Or.) 167
Radioactive Iodine Therapy in a Euthyroid Cardiac Patient with Previous Mitral Commissurotomy, Frederick W. Pobirs and Henry L. Jaffe (CR) 121
Recent Advances in Rheumatic Diseases, Edward W. Boland (Or.) 65
Referred Pain in Headache, Herbert C. Archibald (Or.) 186
Renal Insufficiency, Acute, Clinical Application of the Kolff-Merrill Artificial Kidney in, Christopher C. Shaw (Or.) 293
Retarded Children, Program of Treatment for, James T. Shelton (Or.) 388
Rheumatic Diseases, Recent Advances in, Edward W. Boland (Or.) 65
Rheumatic Lesions in Left Atrial Appendages—Pathologic Studies of Material Removed During Mitral Commissurotomy, L. J. Trageman and C. L. Corley (Or.) 163
Rheumatism Association, Northern and Southern California Panel Discussion—Treatment of the Arthritides (Or.) 367
Rheumatoid Arthritis, Diagnosis in Peripheral Joint Affliction, Stacy R. Mettier (Or.) 181
Rural Health, California Conference on (I) 203

S

Salk (Poliomyelitis) Vaccine, Statement on Method of Introduction of (CMA) 465
Severe Hypotensive Reaction to Oral Chlorpromazine Therapy, Sandor Burstein and John J. Sampson (CR) 45
Shigella Infections—Observations on the Recognition and Management of, Moses Grossman (Or.) 96
Spinal Anesthesia—Survey of Neurologic Complications, Hall G. Holder and Clifford L. Graves (Or.) 426
Statement on Method of Introduction of Salk Vaccine (CMA) 465
Studies in Traumatic Amnesia (Retrograde), J. M. Nielsen (Or.) 330
Surgical Treatment of Melanoma, Robert S. Pollack (Or.) 444
Survey, Chest X-Ray in Los Angeles, Results from, Detection of Cancer of the Lung, Lewis W. Guiss (Or.) 385
Survey of Medical Resources to Meet Enemy Attack (I) 362

T

Tetanus Antitoxin, Prophylactic Failure of 1500 Units, Report of Two Cases, Mario Michael Martini (CR) 189
Therapeutic Regimen for Tuberculous Meningitis—Robert B. Stone (Or.) 176
Treatment of the Arthritides—A Panel Discussion (Or.) 367
Trichlorethylene Anesthesia—Use for Urologic Procedures in the Office, Andrew E. Thuesen (Or.) 179

Tuberculous Meningitis, A Therapeutic Regimen for, Robert B. Stone (Or.) 176
Tumor, Malignant Papillary, of the Bladder, and Benign Papilloma of the Ureter, Charles Pierre Mathé and Lloyd H. Logan (CR) 458

U

Ulcerative Colitis, F. Avery Jones (Or.) 430
Ureter, Benign Papilloma of, and Malignant Papillary Tumor of the Bladder, Charles Pierre Mathé and Lloyd H. Logan (CR) 458
Urologic Procedures in the Office, Use of Trichlorethylene Anesthesia (in), Andrew E. Thuesen (Or.) 179

V

Vagina, Congenital Absence of, Surgical Correction, Joseph Gaster (Or.) 39
Vaccine, Salk (Poliomyelitis) Statement on Method of Introduction of (CMA) 465
Verruca Plantaris, Wayne Wright (Or.) 450

W

Well-Baby Care, Instruction of Mothers in, Milo B. Brooks (Or.) 13
Workmen's Compensation, The Physician's Role in (I) 352

X

X-Ray, Malpractice and the Garrulous Physician, Ervin Epstein (Or.) 116

EDITORIALS

Allergy Skin Testing 50
Annual Session Highlights 462
Eisenhower and Health 194
Physician and Community Service, The 129
Poliomyelitis Immunization 343
Proposed Changes in Federal Medical Services 405

CALIFORNIA MEDICAL ASSOCIATION

Annual Session Program and Reports 211
Donald A. Charnock—New President-Elect 464
Statement on Method of Introduction of Salk Vaccine 465
Council Meeting Minutes:
  409th Meeting, December 11, 1954 135
  410th Meeting, February 5, 1955 345
  411th Meeting, April 2, 1955 466
Executive Committee Minutes:
  245th Meeting, November 17, 1954 52
  246th Meeting, December 11, 1954 138
  247th Meeting, January 13, 1955 196
  248th Meeting, March 9, 1955 407

INFORMATION

California Conference on Rural Health 203
"Error Alone Is Not Negligence"—A Court's Order Bearing on Malpractice Actions 202
Federal Health and Medical Services—Proposals of the Medical Task Force and of the Hoover Commission 413
Group Practice Under a Fictitious Name 418
Malpractice Claims Prevention Programs—Are They Worth While?, Howard Hassard 59
Physician's Role in Workmen's Compensation, The 352
Poliomyelitis Vaccination Project 363
Survey of Medical Resources to Meet Enemy Attack 362

BOOK REVIEWS

Acute Poliomyelitis, *Bower* 365
Annual Review of Medicine, 1954, *Cutting and Newman* 366
Aphasia Therapeutics, *Longerich and Bordeaux* 149
Babcock's Principles and Practice of Surgery—2nd ed., *Jonas* 207
Biochemistry and Human Metabolism—2nd ed., *Walker et al.* 150
Cancer: Race and Geography, *Steiner* 207
Cerebrovascular Disease, *Murphy* 208
Clinical Chemistry in Practical Medicine—4th ed., *Stewart and Dunlop* 366
Clinical Management of Behavior Disorders in Children, *Bakwin and Bakwin* 149
Cultural Difference and Medical Care, *Saunders* 210
Diencephalon, *Hess* 149
Fluid Therapy, *Hardy* 205
Fundamentals of Otolaryngology—2nd ed., *Boies* 64
Galen of Pergamon, *Sarton* 209
Growth and Development of Children—2nd ed., *Watson and Lowrey* 209
Handbook for Diabetic Children, *Fisher and Horstmann* 150
Heart—2nd ed., *Luisada* 210
Human Biochemistry—4th ed., *Kleiner* 209
Hypertension and Nephritis—5th ed., *Fishberg* 64
Hypothyroidism, *Starr* 208
Isotopic Tracers, *Francis et al.* 148
Laboratory Aids in Endocrine Diagnosis, *Escamilla* 64
Lectures on the Scientific Basis of Medicine—Vol. II—1952-1953 206
Legal Medicine, *Gradwohl* 64
Let's Eat Right To Keep Fit, *Davis* 207
Management of Pain, The, *Bonica* 148
Manual of Clinical Mycology—2nd ed., *Conant et al.* 365
Of Publishing Scientific Papers, *Burch* 365
Practice of Allergy—3rd ed., *Vaughan and Black* 148
Primer of Allergy—4th ed., *Vaughan and Black* 206
Proceedings of the Fourth International Congress of the International Society of Hematology, 1952, *de Asua, Dameshek and Haberman* 63
Progress in Neurology and Psychiatry—Vol. IX, *Spiegel* 149
Psychoanalysis and the Education of the Child, *Pearson* 149
Review of Medical Microbiology, *Jawetz et al.* 209
Role of the Pituitary in Cancer, *Wachtel* 207
Sandoz Atlas of Hæmatology, *Undritz* 205
Smoking and Cancer, *Ochsner* 63
Surgery of Pulmonary Tuberculosis, *Forsee* 208
Surgical Treatment of Cancer of the Cervix, *Meigs* 210
Surgical Urology, *Flocks and Culp* 150
Synopsis of Children's Diseases, *Rendle-Short* 205
Synopsis of Obstetrics and Gynecology—11th ed., *Bourne* 206
Textbook of Operative Gynecology, *Shaw* 206
Textbook of Pediatrics—6th ed., *Nelson* 366
Three "Incarnations," *Winchell* 205
Year Book of Obstetrics and Gynecology—1954-1955, *Greenhill* 150

DEATHS

Allen, Herbert W., April 21, 1955 469
Allen, William H., January 10, 1955 198
Andrews, A. V., March 31, 1955 409
Azevedo, Manuel L., March 27, 1955 409
Ballard, Carl H., January 14, 1955 198
Beall, Mary E., March 4, 1955 409
Beede, Arthur H., April 14, 1955 469
Bennett, Charles L., April 7, 1955 409
Bishkow, Isadore E., October 12, 1954 139
Blackshaw, Joseph B., February 17, 1955 348
Bowen, Carl B., April 16, 1955 469
Bower, Richard L., March 26, 1955 409
Carson, Virgil H., February 9, 1955 409
Droz, Adolphus K., January 23, 1955 409

Dzierz, Jack W., March 5, 1955 409
Eagle, Henry R., March 5, 1955 409
Earl, Harry D., February 15, 1955 348
Ellis, Robley N., 1955 469
Enloe. Newton T., December 14, 1954 139
Fleming, Luther P., December 30, 1954 139
Foltz, Clarence B., January 23, 1955 348
Gallagher, Vincent J., January 3, 1955 139
Garcia, Leon C., March 18, 1955 409
Gray, John E., April 14, 1955 469
Gunn, Herbert, December 23. 1954 139
Hammack, Roy W., September 20, 1954 54
Hitchcock, Harold H.. February 6, 1955 348
Hughes, Jones R., September 7, 1954 54
Jacobsen, Jess F., December 19, 1954 139
Kilduff, Raymond, May 8, 1955 469
Kinyoun, Floyd H., December 23, 1954 139
Koff, Raphael J., December 14, 1954 139
Lanphere, Grant H., April 26, 1955 469
Laubersheimer, Anton, January 29, 1955 198
Lifschutz, Jacob, February 4, 1955 348
Lipson, Barnett, November 12, 1954 139
Lynch, William C., December 18, 1954 139
Melnik, Morris, January 24, 1955 348
Meyer, Paul J., December 21, 1954 139
Miller, Frederick F., September 13, 1954 198
Moloney, Clement J., December 4, 1954 54
Mooney, Thomas S., December 26, 1954 409
Morgan, Norman D., January 15, 1955 198
Mortensen, William S., February 10, 1955 348
Mullen, Joseph L., November, 1954 409
Murphy, Francis E., December 19, 1954 409
Paine, Norman C., February 12, 1955 348
Pope, William H., December 6, 1954 54
Reckers, Grant H., April 26, 1955 469
Rogers, John D., December 27, 1954 348
Rohrbacher, George H., February 22, 1955 409
Rose, Ernst, December 27, 1954 139
Schmid, Charles F., February 19, 1955 409
Shelton, E. Kost, February 22, 1955 348
Sherrill, James W., January 4, 1955 198
Sholl, Harry E., December 8, 1954 348
Shuman, John W., Jr., January 16, 1955 198
Sloane, Leonard O., April 17, 1955 469
Sommers, Ignatius G., August 18, 1954 54
Stewart, Robert B., January 19, 1955 198
Stoll, Arthur H., January 27, 1955 348
Sweetser, George W., December 14, 1954 139
Talmage, Carl H., January 16, 1955 198
Van Meter, Abram L., March 28, 1955 409
Wiebe, Dietrich V., March 25, 1955 409
Williams Francis, January 11, 1955 198
Wilson, Carl G., December 1, 1954 54
Woodhull, Royden A., March 26, 1955 469